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PROJECT ECHO

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R. P. Barthol
R. de Mille

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GENERAL RESEARCH CORPORATION

P.O. BOX 3587, SANTA BARBARA, CALIFORNIA 93105

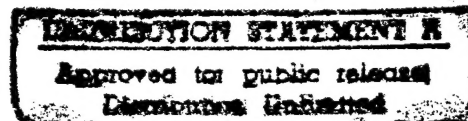# 19970421 126

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PREFACE

Project ECHO was an activity lasting from the middle of 1966 to the beginning of 1969, sponsored for the most part by the Advanced Research Projects Agency (ARPA), Project AGILE, Department of Defense. The research was conducted by General Research Corporation.

The initial effort was supported by General Research Corporation, which asked Alex Bavelas, of Stanford University (working with José Fulco, University of California, Santa Barbara), to explore the potential of a technique, first introduced by Bavelas, for investigating the ideology of groups. The results of this preliminary work were encouraging.

The second period of research began in January 1967 under the direction of R. P. Barthol, of the University of California, Los Angeles. The project manager was J. W. Adams, and the research team included R. G. Bridge and M. Rutherford, with T. W. Milburn, of Northwestern University,[*] as consultant.

The third period began in November 1967 under the direction of R. P. Barthol. The research team included R. G. Bridge, R. de Mille, and (as frequent consultant) T. W. Milburn; W. H. Hunting and E. P. Hunting (for a few months); assisted by J. F. Heller, D. L. Rourke, C. C. Haas, and D. F. Haas. Some other occasional collaborators and assistants are identified in the report.

H. P. Phillips of the University of California, Berkeley, was an anthropological consultant on the culture of Thailand.

Colleagues who volunteered to help the investigators collect data from foreign countries were: Ravipan S. and Somchai R. (Thailand),

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[*]Now at DePaul University.

G. M. Guthrie (Philippines), M. Ross and E. M. B. H. Ombogodonga (Kenya), and Lcdr R. A McGonigal, USN (Vietnam).

This report covers the third period of the research with some references to findings made in the second period. The report is coordinated with three concurrent documents that are frequently cited in the report and that were produced during the third period of Project ECHO.

> The ECHO Method and the Study of Values (Milburn, Barthol, and de Mille, 1968)[*]
>
> ECHO Study at the Pentalith Tracturing Company (de Mille and Barthol, 1969)
>
> ECHO-Vietnam Final Report (Bridge and Heller, 1968)

The first document places the ECHO method in the theoretical field of psychological value study and compares ECHO to other methods in that field. The second gives a detailed description of an ECHO study in a disguised industrial setting. And the third reports an ECHO study in Vietnam.

The name ECHO was chosen at a time when the attention of the investigators was focussed on the ECHO message-session technique. The name (which is not an acronym) connotes the acquisition of information from members of a group, processing of that information, and (like an echo) return of the processed information to other members of the same group, to be judged by them against information coming from some other group.

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[*] Names and dates in parentheses indicate citations; the reference list is located at the end of this volume.

ABSTRACT

The ECHO method is a way of observing, quantifying, and describing the patterns of value and influence that are felt, verbally expressed, and often acted on in human society. Understanding these patterns helps us to understand, communicate with, and act effectively in a particular group or culture. Such patterns can be derived by asking a few general ECHO questions to which respondents give multiple answers about what is good and bad to do, and who would approve or disapprove. The heterogeneous data that result are classified into empirically inherent, rather than into rationally predetermined, categories. The data are classified by members of the surveyed group as well as by the researchers, and the subsequent data analysis is mostly computerized.

From the middle of 1966 to the beginning of 1969, Project ECHO achieved six main objectives:

1. The method was developed to a point where ECHO could give a detailed description of the value and influence pattern of a group, discriminating in detail and with confidence between different groups and subgroups in the same or different cultures.

2. The method's relevance to theory was shown.

3. ECHO method was found to be reliable and concurrently valid.

4. The method was applied successfully in areas of foreign language and culture, as well as in industrial and educational settings.

5. A detailed description of the method was prepared.

6. Special elements of the ECHO method were prepared for application in Thailand.

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I.   SUMMARY

The ECHO method is a way of observing, quantifying, and describing the patterns of value and influence that are felt, verbally expressed, and often acted on in human society. Understanding these patterns helps us to understand, communicate with, and be effective in a particular group or culture.

In the ECHO method, respondents from a selected group give multiple answers to a few very general questions, such as questions about what is good or bad to do, and who would approve or disapprove of each thing. The many and varied responses are classified into categories that are inherent in the data, rather than into categories predetermined by the investigator. Often, the responses are classified by members of the respondent group as well as by researchers, so that an exact and undistorted picture can emerge. Analysis of the classified responses requires computer support, to be economical and timely.

The main objectives of Project ECHO were:

1. Develop the ECHO method to the point where it could give a detailed description of values and influences in a group and could discriminate with confidence between different groups.
2. Show the relevance of the ECHO method to a theoretical background.
3. Evaluate the ECHO method.
4. Explore the applicability of the ECHO method.
5. Describe the ECHO method in detail.
6. Prepare special elements of the ECHO method for application in Northeast Thailand.

During the project, the ECHO method was developed from a few rudimentary steps to a set of 21 elements with much greater analytical power.

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At first, ECHO had quite limited ability to discriminate between different groups, and required a comparatively large expenditure of time for data reduction. With the development of the set of 21 elements (most of them steps), the investigator had many choices of research design, even though the time required to perform ECHO operations had been reduced. The ECHO method had attained the power to not only describe in detail the value and influence pattern of a group, but also to discriminate in detail and with confidence between groups and subgroups in the same or different cultures. This report presents the ECHO method, as it stood at the end of the project. Detail is sufficient to permit application by scientifically trained investigators.

The report and its coordinated document The ECHO Method and the Study of Values show that the ECHO method is fully relevant to the theoretical field of psychological value study. These documents evaluate the method in comparison with five other methods of value study. Reliability is found satisfactory for theoretical and practical applications; and concurrent validity is evidenced. Utility (cost-benefit characteristic) is judged to be comparatively high; and informational utility (production of unexpected useful information) is shown, in two examples, to be high.

The ECHO method was found to be applicable in foreign languages (Spanish, Thai, Vietnamese), in foreign cultures (Thailand, Kenya, Philippines, Vietnam), in industrial settings (four companies; for examples, see Barthol and Bridge, 1968, and de Mille and Barthol, 1969), and in educational settings (many samples, third grade to graduate study). The ECHO method was judged fruitful for the theoretical study of values in human behavior.

Specific preparations for research in Thailand included a set of ECHO questions that were pre-tested on five samples of Thai students and Thai college graduates and found satisfactory. In the Thai language, "good to do" and "bad to do" were rendered by four questions meaning

"like to do," "not like to do," "ought to do," "ought not to do," because the Thai di has a much stronger moral connotation than the English good. Thai instructions for ECHO question and classification sessions were also prepared, tested, and found satisfactory.

The ECHO method is recommended for theoretical work, cultural description, and intergroup discrimination. ECHO is suggested as probably appropriate for behavior prediction, the enhancement and evaluation of training in culture-relevant fields, the construction or enhancement of informative or persuasive communications, and the development of polling questions. The ECHO method is specifically recommended for research in Thailand and in domestic problems of community relations. Recommendations for further development of the method are listed.

Numerous incidental descriptive findings and some incidental theoretical findings are reported.

II. INTRODUCTION

A. PURPOSE OF THE ECHO METHOD

1. Measurement of Human Values

The ECHO method is primarily a way of measuring human values.
Underlying the method is an assumption so broad and basic that one might
easily forget to make it explicit: the assumption that there is a uni-
versal human tendency, common to all places and cultures, to exhibit in
both verbal and non-verbal behavior some preferences and aversions, some
obligations and prohibitions, some hopes and fears, some satisfactions
and disappointments. In short, people everywhere are assumed to feel,
to express, and to act out their concepts of good and bad.[*]

A second assumption of the method is that values are held in com-
mon in homogeneous groups of people. If we ask a hundred people, "What
is a good thing to do?" and eighty of them answer, "It is good to help
others," we assume that the remaining twenty also believe that it is
good to help others but did not think of mentioning it on that particular
day. The value category "helping others" would then be assigned an
importance of 80 percent for that group, which indicates a strong value.

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[*] In this report, the term value often includes the ideas of both good
and bad, but occasionally good and bad are distinguished as values
and disvalues. The term value may refer to some feeling we ascribe to
a person (for example, we say that he values his life), or value may
refer to something he says (such as, "It is good always to tell the
truth"). The most common use of the term in this report is to desig-
nate certain kinds of things that people say are good and bad; these
kinds of things--more exactly described--are the titles given to cate-
gories of ECHO responses. We may say, then, that killing is a dis-
value in many groups--by which we mean that in many groups some answers
to ECHO questions (such as, "it is bad to kill," "murder is bad") have
been grouped together and labelled Killing. The term value and related
terms (attitude, norm, belief, habit, custom, opinion) are defined and
discussed by Milburn, Barthol, and de Mille (1968). Some other special
terms may be found in the Glossary, Appendix I.

If five people answer, "It is good to take a vacation," we assume that the remaining ninety-five also believe it is good to take a vacation, but did not think of mentioning it.* The value category "take a vacation" would be assigned an importance of five percent, which indicates a relatively weak value, but one still important enough to be mentioned spontaneously by members of that group.

2.   Measurement of Influences

In addition to measuring values, the ECHO method measures the influences that people associate with values. Many values, for example, involve social obligations or prohibitions. People say that it is a good thing to be polite or a bad thing to steal. When we ask who would approve of being polite or who would disapprove of stealing, one respondent may tell us that his parents would approve of being polite and the police would disapprove of stealing; another respondent may say that he himself would both approve of being polite and disapprove of stealing. These approving or disapproving figures are called sources, because they are seen as giving approval or disapproval for good or bad behavior; they are sources of one kind of influence.

Another kind of influence is touched on by questions that ask, "What is a good thing to happen? Who or what would cause it?" Patterns of cause and effect are quite different from patterns of approval for behavior, but both are patterns of value and influence.

As with values, the tendency to be aware of social approval and disapproval and the tendency to see cause and effect relationships are

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The assumption about common values was generally applied in Project ECHO and is further discussed on pages 60 to 62. Occasionally, the assumption may be contradicted by the data, as in the Pentalith Study (de Mille and Barthol, 1969), where two small, mutually contradictory categories were interpreted as reflecting the differing views of two previously unsuspected subgroups.

assumed to be universal in human society. The sources mentioned by members of a group are also assumed to be held in common by that group, the more important sources being those mentioned by more people.

3. Values and Behavior

The main reason for measuring patterns of value and influence is that human behavior is largely motivated by such patterns. People try to do the things they like to do or that are approved in society; they try not to do things they dislike or that are disapproved.[*] The balance between private preferences and public morality may change often, so that a person may conform to social standards at one time and violate them at another. However, at any particular moment, he will feel and act out a particular set of values and expectations of influence. These forces combine with other factors (such as information) to shape his behavior from moment to moment.

Since ECHO produces detailed descriptions of the value and influence patterns felt, expressed, and to a considerable degree acted out by groups of people, it tells us many things we want to know about those groups; it helps us to understand things that may be inexplicable without such information. Why, for example, are there so many hungry people in India when there appears also to be an oversupply of beef? The explanation can be given almost entirely in terms of a value: in the Hindu culture, it is a bad thing to slaughter a cow. Who would disapprove? Holy men, wise men, or the gods. Values act in daily life in all cultures to shape behavior; understanding the values of a culture is indispensable for understanding the society, moving through it successfully, or communicating effectively with its members.

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[*] Approval or disapproval may stem from many social groups, institutions, or subcultures; no specific social frame of reference is assumed in this discussion.

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B. BRIEF DESCRIPTION OF THE ECHO METHOD

1. The ECHO Questions

The usual technique for collecting ECHO data is quite simple.
Members of the group to be surveyed are brought together and given packets
of data processing cards called question cards. Each card has a set of
two printed questions, and the respondent, or $\underline{S}^*$, writes an answer to
each question. Cards that have already been used by the $\underline{S}$s are called
"response" cards." The first response card illustrated in Fig. 1 is from
an American high school girl, who says that a good thing to do is to "be

Figure 1. ECHO Reponse Cards

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*In this report, $\underline{S}$s will stand for respondents to the questions or sub-
jects in an experiment. The $\underline{E}$ will stand for the experimenter, investi-
gator, or session administrator.

more useful around the house. Help with more of the housework," and that her parents would approve. The second card is from a male Cuban refugee, who says that a bad thing is to "abuse some poor devil who hasn't done anything wrong," and that he himself would disapprove.

Because $\underline{E}^*$ wishes to find out about many values, each $\underline{S}$ is given several question cards (usually 7 or 10) bearing the same set of questions (for example, "What is a bad thing to do? Who would disapprove?") The $\underline{S}$s are instructed to write something different on each card. In 20 to 35 minutes the $\underline{S}$s have completed their good and bad cards and any supplementary cards that may be in the packet. The cards are collected and the question session is over.

2.   ECHO Classification

The next step is to classify the responses. Classification is necessary because $\underline{E}$ cannot know in advance what kinds of answers the $\underline{S}$s will give. American college students may say, among many other things, that it is good to protest the ills of society, to make friends, and to know and be true to yourself. Kenyan students may say that it is good to be loyal to your country, to do something in agriculture, and to obey your parents. Thai students may say that it is good to be polite, to be generous, and to do things that are fun.

When $\underline{S}$s are not directed to answer specific questions (such as, "Is it better to go to college or get a job?") but are permitted to respond as they please to very general questions (such as, "What is a good thing to do?"), and when they are required to answer the same question several times, the result is a mass of heterogeneous data that cannot be fitted into categories prepared ahead of time by $\underline{E}$. Instead, categories must be formed out of the responses themselves, so that the inherent meaning of the data can emerge.

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* See footnote on previous page.

The ECHO classification technique is the means of finding the categories of good and bad things that are inherent in the data. Three people work, first independently and then as a team of classifiers, grouping together cards (responses) that have the same meaning to them. When the team has finished grouping the cards, all of the responses have been classified into a system of categories; each category containing responses that mention the same kind of good (or bad) thing. The classifiers then make up, for each category, a title that summarizes all of the responses in the category.

This classification technique assures that the respondents' value system (or hierarchy, since some values are mentioned by many $\underline{S}$s while others are mentioned by few) will emerge undistorted by the preconceptions of the investigator. Sometimes, however, the classifiers themselves may have inappropriate preconceptions and may group cards in a way that does not quite fit the indigenous value system of the group. Inappropriate grouping is particularly likely to happen when the classifiers are not familiar with the culture (as for example, American research assistants who classify the responses of Philippine or Thai respondents). To eliminate any distortion that might be introduced by staff classifiers, the responses are often classified by members of the group that is being surveyed. These indigenous classifiers, being familiar with the values of their own group, with the social background of those values, and with the language in which the responses are given, may produce some categories that are quite different from those produced by nonindigenous classifiers. On the other hand, staff classifiers usually work more accurately and produce categories that are technically better. The two kinds of classification are applied to the same data and are mutually corrective, so that the end result is a well-constructed and undistorted hierarchy of values.

3.   ECHO Data Analysis

The analysis of ECHO data depends on automated procedures, on the use of data processing machines and computers. Of course, all operations

could be accomplished by hand, but the cost (especially in time) would be prohibitive for most applications. The mass of data is so large and complex that practical use of the method requires automation of all but the few judgmental steps.

The collection of ECHO answers on data processing cards is the first step in the automated analysis. Each card is prepunched with identification codes that make it easy to tell one S from another and one group or subgroup from the next. (Though each S may be completely anonymous, E must still distinguish between Ss.)

After the classification codes have been punched, the data cards are machine processed through a series of steps. The computer outputs include lists of value hierachies and of source hierarchies, tables that compare groups, lists of classified responses, and other kinds of results that are ready for interpretation by E.

4.   Difference Between ECHO and Polling Techniques

The ECHO method is not considered to be a replacement for the familiar polling techniques in which respondents answer specific questions (whether few or many) and answer each question only once. The two kinds of techniques produce different information. Specific poll questions can provide very accurate measurement of the things the pollster is interested in. When the pollster has chosen his questions well, the information may be very useful. But in order to choose his questions well, the pollster must be very familiar with the culture and population to which those questions relate. The remarkable success that polls have achieved, for example, in predicting American election outcomes depends in part on the fact that the voting ritual is wholly familiar and well-understood. How well might pollsters do in predicting next year's migrations of tribesmen in Kurdistan? Not nearly so well, one supposes, and one of the main reasons is that they would not know what questions to ask.

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The pollster must have prior knowledge about values that are important to the group being questioned. Having such knowledge, the pollster can ask the right questions. The main purpose of ECHO is to find out just what _is_ important, what values are expressed by most members of a particular group.

Polls can get answers to questions that the respondents are not really interested in. If this happens, the results are misleading. If asked, 75 percent of Americans might say, for example, that there should be no abstract paintings on the walls of the White House. How important is such a preference? We cannot know whether such a question should even be asked unless we examine the prevailing hierarchy of values about the conduct of the President. The ECHO method is most useful in determining values and value hierachies about which we have little prior knowledge.

C.   ORIGINS OF THE ECHO METHOD[*]

The use of broad, open-ended value questions can be traced back to Osborn (1894), who asked children what they should do to be called good or bad. Osborn classified the children's responses into several kinds of good or bad behavior and found that more than half of the group mentioned obedience while only about a quarter mentioned truthfulness. He made comparisons between boys and girls and between classes from two different schools.

Bavelas (1942) introduced a technique that was the direct forerunner of the ECHO method; he described its application to school children as follows:

> The first question was, 'What could a child of your age
> do at school that would be a good thing to do and someone
> would praise him?' When the child had answered the question,
> the experimenter asked, 'Who would praise him?' This unit
> was repeated three times, the second and third time the child
> being asked, 'What else could a child of your age do and some-
> one would praise him?' On the fourth repetition the experi-
> menter changed the statement by inserting the adjective 'very'

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[*] A more detailed discussion is given by Milburn, Barthol, and de Mille (1968).

before the word 'good,' and by changing the second half of
the question to read, 'Who would praise him very much?'
On the seventh repetition the experimenter read two 'very's'
where one had been. In all, there were nine repetitions of
the question asking for praisable activity. This unit of
praise questions was followed by a unit of nine scold ques-
tions phrased in a corresponding manner. [1942, p. 373]

The Bavelas technique was superior to Osborn's procedure in three
important ways:

1. Bavelas presented each question a standard number of times
   and elicited multiple responses from every subject.

2. The source of praise or blame, implicit in Osborn's
   questions, was made explicit by Bavelas.

3. Relationships between valued or disvalued acts and the
   sources of social reinforcement were analyzed.

Kalhorn (1944) applied the Bavelas technique in a study of Menno-
nite and non-Mennonite school children, finding intergroup differences
in values and in sources of approval/disapproval. Havighurst and
Neugarten (1955) used the technique to compare midwestern white children
with children of ten American Indian communities.

The infrequent use of this promising technique during the 24 years
between its invention and the beginning of Project ECHO can probably be
laid chiefly to the difficulty of analyzing the data without suitable
automated procedures.

III. RESEARCH OBJECTIVES

The main objectives of Project ECHO were the following:

1. Develop the method to the point where ECHO would be capable of:

    a. Describing in detail the value and influence pattern of a selected group.

    b. Discriminating in detail (and with confidence) between groups and subgroups.

2. Define the relevance of the ECHO method to the theoretical field of psychological value study.

3. Evaluate the ECHO method against criteria of reliability, validity, utility, and informational utility, in comparison with other methods of value study.

4. Explore the applicability of the method to populations speaking other languages, to foreign cultures, to industrial and educational settings, and to other groups.

5. Articulate and record the elements of the method so that ECHO could readily be applied (with suitable modification) by a scientifically trained investigator.

6. Prepare specific ECHO elements for application in Northeast Thailand.

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IV. RESULTS AND DISCUSSION

The long duration of Project ECHO (2-1/2 years), the number of
methodological problems that were solved, and the variety of available
data samples made the outcomes numerous, complex, and varied. This
chapter is divided into seven sections (A to G) in which the results of
Project ECHO are reported and discussed. Most of the results were ob-
tained during the third period of research (which began in November,
1967), but several important findings from the second period, reported
earlier by Barthol and Bridge (1967), are reviewed here.

Section A describes the ECHO method as it stood at the end of the
project. Twenty-one elements of the method, most of them procedural
steps, are listed and briefly explained; eighteen of the elements are
presented in a diagram (Fig. 2).

Sections B and C give details of two unique ECHO elements: the
ECHO classification technique, and the ECHO sources.

Section D is a further elucidation of the method. Parameters and
known requirements or limitations of the method are discussed at length.
Particularly important among the parameters are the six variables con-
tained in the ECHO questions: role, event, valuation, reinforcement or
agency, source, and additional context.

Section E reports findings about the applicability of the ECHO
method to populations that speak other languages, to foreign and esoteric
cultures, to hostile domestic groups, and to work groups. The problem
of measuring value change is discussed, and the ability of ECHO to dis-
criminate between groups and subgroups is described.

Section F gives an evaluation of the ECHO method against the cri-
teria of reliability, validity, utility, and informational utility. The
discussion is coordinated with, and adds some detail to, the evaluation

of ECHO given in The ECHO Method and the Study of Values (Milburn, Barthol, and de Mille, 1968).

Section G subsumes the theoretical groundwork of ECHO, given in The ECHO Method and the Study of Values; some specific theoretical findings are reported.

A.   ECHO METHOD, 1968

At the end of the ECHO Project, the ECHO method had been developed well beyond the rudimentary steps described by Barthol and Bridge (1967). Figure 2 shows the 1968 ECHO procedures from the point where data are first collected to the point where the findings are used; the heavy arrows indicate a sequence of procedures that are used in most studies; the lighter arrows indicate various options that can be used as needed.

The numbered headings in the following paragraphs take up different ECHO procedures (or products), of which items 4 to 21 are represented in Fig. 2.   The first fifteen headings deal with the main procedures; the last six, with optional procedures.   The descriptions of the procedures will be brief; extended discussions of some items will be deferred.

1.   Statement of Research Problem

ECHO studies may have theoretical or applied purposes, or both. If theoretical, the study may test hypotheses or be merely exploratory. If applied, the study may generate information of some particular kind for practical use at a specified time.   Such considerations will largely control the design of the study.   The $\underline{E}$'s first step is to state the research problem.

2.   Design of Study

The designing of behavioral or social research implies a background of scientific education, training, and experience that cannot be imparted in a list of procedures.   A review of the theoretical background of ECHO
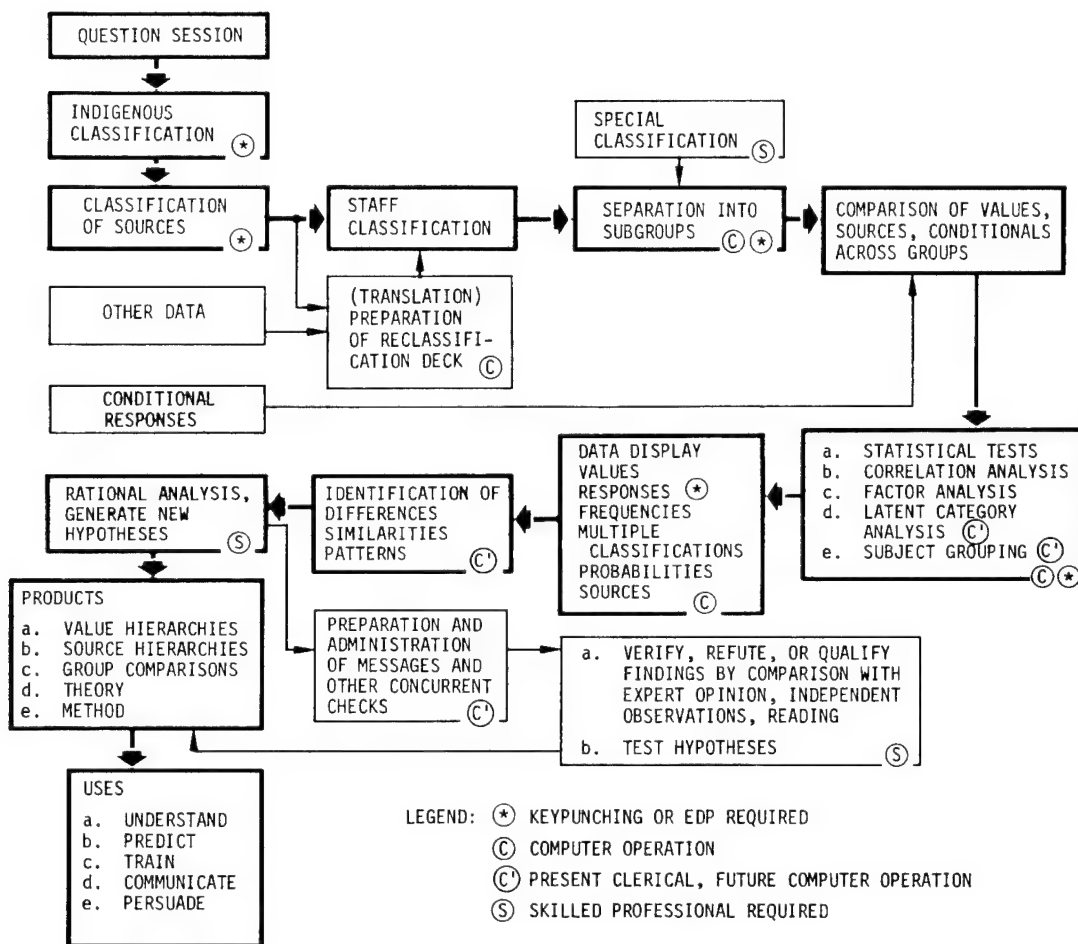
Figure 2.   The ECHO Method, 1968

is given by Milburn, Barthol, and de Mille (1968). Many of the methodological strictures that apply to ECHO studies are among those applicable to psychological testing (Anastasi, 1961). Nevertheless, some selected questions of design, most of them peculiar to the ECHO method, may be usefully specified.

a.   Selection of Population(s)

The E must answer the question: "What kind of people are we interested in, and how do we define them as a population?" In the Intercultural College Study, for example (see Appendix II), E defined the populations as college students in different countries.

b.   Selection of Sample(s)

The E must select groups that will be defensible samples of the defined populations. In the Intercultural College Study, students at various colleges in the United States were used as samples of the population of college students in the United States.

c.   Formulation of ECHO Questions

The data resulting from an ECHO study are crucially influenced by the form of the ECHO questions. At least six variables may be discerned in the construction of ECHO questions, and they may be manipulated in various combinations. The variables are:

1.   Role of the respondent (for example, a person like you, a villager, an employee at this company; or no role assignment).

2.   Event (for example, a thing to DO, a thing to HAPPEN).

3.   Valuation of the event (such as, good, bad, like, not like, ought, ought not).

4.   Reinforcement or agency (such as, approve, disapprove, praise, blame; cause, prevent).

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5. Source (reinforcer or agent: for example, parents, myself; a good job, bad luck).

6. Additional context (as, in the village, to prevent a riot, during a strike, while on vacation).

d. Formulation of Instructions

The Ss participating in an ECHO question session must be told what to do with the materials they receive. The instructions cover both the mechanics of using the materials and the psychological set that the S should assume when answering the questions. Additional context, too detailed for inclusion in the printed questions may be provided. The instructions also help motivate the Ss to cooperate fully by giving Ss a plausibly correct reason for the data collection, and by assuring them either of anonymity or (if that is not possible) of confidential treatment of the responses.

e. Translation of Questions and Instructions

When data are to be collected in a foreign language, the questions and instructions must be translated. This task is more exacting than most translation, because fine shades of difference may be crucial. The E must decide what translation procedures to use.[*]

f. Number of Question Cards

The E has some latitude in deciding how many question cards to present to each S. All of the studies reported here used 10 cards for each question; but evidence has been reported (Appendix II, Manila Study) that 7 cards may be sufficient.

g. Selection of Supplementary Measures

It is often advantageous to collect biographical data from the Ss, or to record other objective data about the Ss. These measures contribute

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[*] See Appendix II, Thai Study and East Los Angeles Skill Center Study; also Phillips (1959) and Bridge and Heller (1968).

to the control or analysis of extraneous factors or to the partitioning of the data into subgroupings. Some ECHO studies employ supplementary psychological measures (for example, semantic differential, personality inventory[*]), which can be used to evaluate ECHO construct validity, or to improve predictions.

h. Classification of Responses

The E̲ must decide how many classifications of the data will be useful, how much can be contributed by indigenous classification, whether to use staff classification, and how much and what kind of interaction should take place between indigenous and staff classifications or classifiers. When indigenous classifiers are used, instructions for them must be written and, often, translated.

i. ECHO Message Design

The ECHO message technique, described by Barthol and Bridge (1967, 1968), is a way of testing the concurrent validity[**] of ECHO results. An ECHO message is usually a short list of high-ranking value category titles from a certain group of respondents which is presented to members of the group to be judged for importance or acceptability against a similar list from some other group or against a manufactured list. ECHO validity is confirmed when the S̲s choose the list coming from their own group (the indigenous message) over the alternative message.

If E̲ decides to hold a message session, he must decide what sort of messages to use (lists, single titles, or discursive messages) and what alternative messages to pair with the indigenous messages for judgement. Instructions for the message session must also be written.

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[*] T. W. Milburn, personal communication.

[**] See Milburn, Barthol, and de Mille (1968, p. 41-42) for definitions of concurrent and predictive validity.

j.   Persuasive Messages

If E wishes to estimate predictive validity, he can plan to measure the effects of persuasive messages based on ECHO results. (This use is distinct from the use of persuasive messages to achieve practical ends.)[*]

k.   Control of Extraneous Factors

In the selection of samples and during question sessions, classification sessions, message sessions, and use of persuasive messages, extraneous influences may introduce bias or unreliability. The E must take precautions so that Ss and classifiers are not distracted or systematically affected by adverse or unusual conditions.

l.   Methodological Evaluation and Improvement

The E can plan to estimate reliability of responses or classifications. The E can introduce modified techniques and plan to evaluate their outcomes.

m.   Data Organization and Reduction

The E has various options in the analysis of the data and presentation of the results. His choices will be dictated largely by the inferences he wishes to make, the hypotheses he wishes to test, or the practical uses to which the results are to be put. The plan for data organization and reduction should precede data collection.

3.   Preparation of Materials

Before materials are prepared in quantity for a question session, all content that has not been tested before on equivalent Ss should be pretested on samples equivalent to the selected Ss or on samples as nearly like the Ss as possible.

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[*] The construction, transmission, and evaluation of the effects of persuasive messages was not an exercise carried out during the ECHO Project, but is a logical further step both in the exploration of ECHO validity and in the practical use of ECHO results.

When the content has proved satisfactory in pre-tests, question cards, printed instructions, biographical data cards or forms, and supplementary forms are prepared. The E estimates the number of forms needed and prepares printed (or mimeographed) question cards with punched identification codes that assign a unique number to each S and (within one S's card set) a unique number to each card. All question cards, biographical cards, and supplementary cards for each S are combined in the correct order in an envelope or other packet; orders of good and bad (or other question alternatives) are counterbalanced in the group; supplementary and biographical cards are presented to the S after the ECHO question cards.

Materials for message sessions usually consist of booklets. Each page of the booklet contains a pair of messages, one of which is to be selected by S. Different combinations are counterbalanced for the group of Ss. The booklet also contains instructions as needed.

4.   Question Session

a.   Group Administration

ECHO questions are usually presented to Ss in groups. The Ss follow written instructions as E reads the same instructions aloud. Time is not limited (except for unusually slow Ss); 30 minutes is enough time for most Ss.

b.   Unobtrusive Measures

The Ss are not asked to supply any biographical information that can as well be unobtrusively collected by E (for example, by noting on each returned envelope any observable group or individual characteristic in which E is interested, such as work shift or sex). The purpose of this constraint is to minimize the Ss' apprehensiveness about being asked personal questions.

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c.   Individual Interviews

When Ss cannot write, the data can be collected by an interviewer.

d.   Self-Administered Questions

In some studies, of necessity, the question materials may be given to each S, to be completed and returned at S's convenience.

f.   Data Collection by Mail

Question materials can be mailed to Ss or prospective Ss, to be returned at Ss' option and convenience.

These four techniques do not produce exactly equivalent data. Each has advantages and disadvantages. In general, the group administration is superior, because Ss in groups comply better with the instructions than Ss surveyed at their convenience or by mail, and because the group administration avoids the unknown effects of interactions between individual Ss and an interviewer. Group administration is also the least costly.

5.   Indigenous Classification

The responses are classified by one or more teams of indigens, who are (usually nonrespondent) members of the group from which the question-session Ss (respondents) were drawn. After each classification, the classification codes (category numbers) are punched into the data cards. Under field conditions, the category numbers may be written on the cards as a temporary substitute for code punching. Codes 98 and 99 are reserved for miscellaneous responses and non-responses respectively; code 99 is used in classifying sources where responses to the second question (source question) are omitted by Ss. After the category numbers have been punched (or written), the response deck is ready for another classification.

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6.   Classification of Sources

Source responses are usually classified by staff classifiers, according to a standard numbering system. When the data come from an unfamiliar culture, however, or need to be translated, it will often be helpful to have all source response classified by indigens before the standard coding system is applied.

7.   Staff Classification of Values*

Value responses are classified by staff members or trained field assistants. Staff classification has two main purposes: first, to produce accurately constructed categories that are neither overlapping nor too inclusive; and second, to combine the responses of different groups or subgroups (such as, males with females, rural $\underline{S}$s with urban $\underline{S}$s, Americans with Thai).

It is usually advantageous to allow the indigenous and staff classifications to interact. The purpose is to correct the misconceptions of the staff classifiers by exposing them to the special knowledge of the indigenous classifiers. The interaction may be accomplished in three ways:

a.   Concurrent interaction, in which the staff team works with one or more indigens as helpers and informants.

b.   Sequential interaction, in which the staff team studies the results of the indigenous classification before and during the staff classification. The staff team can read the indigenous classification codes on the response cards and can review the indigenous category titles.

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* In the Pentalith report (de Mille and Barthol, 1969), staff classification was called professional classification. Staff classification, used here, is a better term, because staff classifiers, though trained to do classification, do not have to be at the level of competence or responsibility usually connoted by the word professional.

c.   Terminal interaction, in which the results of the two
     classifications are compared by computer program ROCKEM
     (see Appendix III). Errors in the staff classification
     can be discovered by this technique and corrected.

8.   Separation into Subgroups

After the staff classification has been completed and the resulting codes have been punched into the data cards, the respondent samples that were combined for the classification are separated by sorting the cards back into their original groupings or into new subgroupings (such as, male and female, younger and older).

The data cards for each group or subgroup are processed by computer program UNIKOUNT (see Appendix III), which counts the responses in each category and the $\underline{S}$s represented (by at least one response) in each category. The output consists of tables showing the frequencies, percentages, and rank numbers associated with each category title.

9.   Comparisons of Groups and Subgroups

The UNIKOUNT tables are used to prepare sets of data cards for program PERZPROB (see Appendix III), each set containing the category code numbers and associated titles and percentages from one UNIKOUNT table. Program PERZPROB can compare up to 15 such data sets, printing out a table in which the category titles are assigned to rows, and the groups or subgroups are assigned to columns; the body of the table shows the percentage of each group of $\underline{S}$s represented in each category. The program is used for value comparisons, source comparisons, and biographical and supplementary comparisons.

Program ROCKEM can be used to determine which sources are associated with which value categories in the various groups. The program prints a table for each value category showing the number of responses in which each source was associated with that value category; or the arrangement can be reversed, showing how each value category was associated with a given source.

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10.   Statistical Analysis

Five kinds of statistical analysis of the ECHO data can be added
to the procedures described in steps 8 and 9. The first three are already
operationalized in computer programs; the last two are proposed as desir-
able kinds of data reduction, to be developed later.

a.   Statistical Tests of Percentage Differences

Program PERZPROB displays the percentage of each group of $\underline{S}$s repre-
sented in each ECHO category. In addition, the program computes the exact
probability that a difference at least as large as that observed between
two groups (in one category) would arise by chance. The $\underline{E}$ uses the
PERZPROB probability table to evaluate the significance of pairs of per-
centages in the percentage table (see Appendix III).

b.   Correlation of Groups or Subgroups

Pearson product-moment correlations (Guilford, 1956) can be computed
between two groups across the frequencies of $\underline{S}$s represented in ECHO cate-
gories (see Appendix II, Intercultural College Study). These correlations
show the overall similarity or dissimilarity of ECHO responses in the
two groups; they do not show how any specific ECHO categories contribute
to the similarity or dissimilarity. (Information about intergroup dif-
ferences in specific ECHO categories is found in the PERZPROB tables.)
Any standard computer correlation program can be used.

c.   Factor Analysis of ECHO Data

The intergroup correlations can be factor analyzed when a large
number of categories has been used to compute the correlations and when
the groups are chosen so as to satisfy the assumptions of factor analysis.[*]
In the Intercultural College Study (Appendix II), a standard factor anal-
ysis computer program isolated United States, Thai, Kenya, and Manila
factors as predicted. (Factors based on intercorrelations of categories

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[*] For constraints on the interpretation of such factors, see Guilford
(1952).

or on intercorrelations of S̲s would be more useful, but the problems of computing these correlations from ECHO data have not been worked out.)

d.   Latent Category Analysis

When the same responses are classified several times by different teams of classifiers, inspection shows that some categories have a core of responses that is invariant from classification to classification. The invariant core represents the latent category, which is less accurately represented by the corresponding categories from the different classifications. Analysis of ECHO data for latent categories might be accomplished with latent partition analysis (Wiley, 1967) and might delineate the important values in a culture with less error than present classification procedures.

e.   Subject Grouping

It should be possible to test the assumption that a group of ECHO S̲s is homogeneous by analyzing the pattern of response concordances within each pair of S̲s. This analysis is like correlating all pairs of S̲s. Exact procedures have not yet been tested.

11.   Display of Results

Computer programs UNIKOUNT, ROCKEM, and PERZPROB provide several kinds of printed displays that may be used in interpreting ECHO results. Among these is the complete list of classified responses that can be obtained from program ROCKEM when keypunching of responses has been limited to one card per response. When a display deck has been prepared, showing all responses in their original length, lists of classified responses can be obtained by sorting and listing the display deck.

12.   Identification of Significant Items

Significant items of difference between groups can be identified by a clerical assistant using the PERZPROB probability table. Every number in the table that is equal to or less than a selected significance

level (for example, .05, .01) can be circled; the pairs of percentages corresponding to the circled numbers can then be abstracted and a more convenient table made up for interpretation by E.

A list of items in which two groups are (significantly) different and another list of items in which they are (correspondingly) similar can be made up (see Appendix II, Tables 11, 12, 13). In such contrasting lists, the patterns of intergroup similarity and difference can easily be seen.

13.   Rational Analysis and Hypothesis Formation
      The E's training and experience are brought to bear on the results to formulate compelling and defensible findings, supported by the results, and testable hypotheses, suggested by the findings. Steps 4 to 12 can be carried out in a routine fashion, but step 13, like steps 1 through 3, requires professional judgement.

14.   ECHO Products
      Five kinds of information result from ECHO studies:

a.   Value Hierarchies
      A value hierarchy describes the values of a group that are sufficiently salient in the awareness of members of the group to be explicitly and spontaneously stated, and gives their order of importance for the group.

b.   Source Hierarchies
      A source hierarchy describes the sources of influence perceived and expressed by members of the group and gives their order of importance.

c.   Group Comparisons
      Group comparisons list and interpret the differences and similarities between groups, as the group members perceive the values and sources of influence in their lives.

d.   Theory

ECHO hypothesis formation and testing add to the psychological theory of value and to related theoretical areas, such as social psychology and personality theory.

e.   Method

Methodological findings help to improve the ECHO method and may influence related methods.

15.   Uses of ECHO Products[*]

ECHO products may be used in many ways, prominent among which are the following five:

a.   To Understand

The foremost use of ECHO results is to enhance understanding of the value-and-influence patterns in groups of people, whether familiar, unfamiliar, or esoteric.

b.   To Predict

Information about values can be used to improve prediction about behavior in the populations surveyed (see Milburn, Barthol, and de Mille, 1968, pp. 14-17). Such predictions can serve theoretical or practical purposes.

c.   To Train

ECHO information should prove useful in training for culture contact and in the proximate evaluation of such training.

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[*] This brief list of uses is subsumed by the list of recommendations for applying ECHO, Sec. VI. Uses b, c, and e are plausible uses of ECHO information but have not been tested; uses a and d have been tested and provisionally validated.

d.   To Communicate

The value categories and the detailed language in which responses are given can be material for constructing messages that are acceptable and understandable to members of the populations surveyed.

e.   To Persuade

The persuasive power of messages can be enhanced by congruity with the value system and favored expressions of target groups.

Items 16, 17, 20, and 21, that follow, are optional ECHO procedures; items 18 and 19 are possible ECHO procedures, and are proposed for future trial.

16.   Other Data

a.   Data from Other Groups

The value system of a particular group can be put into an inter-group or cross-cultural context by the addition of responses from a different group or set of groups; all of the data are then classified together. (See Appendix II, Intercultural College Study.)

b.   Manufactured Data

Manufactured responses can be included in a classification to test hypotheses. (See Appendix II, High School Training Group Study.)

17.   Translation and Preparation of Reclassification Deck

a.   Translation

Data from different groups can be translated into a common language for unified classification.

b.   Reclassification Deck

Computer program PRINDEK (see Appendix III) prints cards containing complete responses (one response per card) for unbiased classification of mixed samples or classification of translated samples.

18.   Conditional Responses

Indigens review the category titles and give conditions under which the stated values would not apply or could properly be violated. These conditional responses could be used to test hypotheses about the unstated background conditions of expressed values.[*]

19.   Special Classification[**]

ECHO classification could be used as a primary method of investigation rather than a step in the analysis of responses. Several distinct kinds of problems may be listed.

a.   Classification Parameters

The nature of the classification process could be studied by systematically varying the instructions to classifiers (for example, classifiers could be told how many categories to make, or given logical rules for grouping cards together). Sequential effects of sorting and grouping could be studied.

b.   Characteristics of Classifiers

Classifiers from different groups could classify the same data to reveal differences in classification behavior attributable to groups.[***] Classifiers with different psychological traits could classify the same data to reveal relationships between classification traits and other traits.

c.   Theoretical Constructs

Classifiers could be instructed to group cards together in theoretically based categories. Instead of putting responses together that

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[*]   The use of conditional responses was proposed by Bridge (Bridge and Heller, 1968).

[**]   See also Milburn, Barthol, and de Mille (1968, pp. 21-22).

[***]   An approach to this technique was used in early ECHO studies, where females classified male data and vice versa (Barthol and Bridge, 1967).

"say or mean the same thing," classifiers could be given a more specific rule, such as "group responses together that show love for others."

d.   Cross-Cultural Sorting

Classifiers could be asked to sort responses from one culture into categories from another culture, to reveal the congruities and incongruities between the two systems.*

20.   Messages and Other Concurrent Checks

a.   Message Session

The message session was one of the early ECHO techniques, developed to assess concurrent validity of ECHO findings. Value statements derived from one population (indigenous statements) are presented to members of the population along with competing statements from other populations (Barthol and Bridge, 1967) or manufactured statements (Barthol and Bridge, 1968). When a significant majority of the group select the indigenous statements, E concludes that the statements represent important indigenous values.

b.   Other Concurrent Measures

Any other measures of values or of behavior predicted from values can be used to assess the concurrent validity of ECHO findings.

21.   ECHO Information and Hypothesis Testing

When alternative sources of information about the subject population are available, ECHO findings can be tested against them and verified, refuted, or qualified. When formal hypotheses have been stated, they can be accepted or rejected. In addition, ECHO-generated hypotheses could be tested in laboratory experiments (for example, small group studies, game studies).

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* This technique was tried in Project ECHO when the responses of the East Los Angeles Skill Center trainees (see Appendix II) were sorted into the Intercultural College value categories; the pattern of congruity-incongruity was marked and readily interpretable.

B.   ECHO CLASSIFICATION, DISCUSSION AND DETAILED DESCRIPTION

When 50 or 100 ECHO respondents each fill out 7 to 10 question cards, they generate a vast amount of heterogeneous information that would be very difficult to interpret if not organized. One purpose of classification is to introduce a relatively simple and interpretable order into this complexity. A second purpose is to arrive at an index of importance for each category of value. Categories in which many of the respondents are represented are considered more important than categories in which only a few respondents are represented; usually a distinct hierarchy of importance emerges.

1.   Indigenous and Staff Classification

In the ECHO method, two kinds of classification are routinely used: indigenous classification, done by a team selected from the same group that the respondents came from; and staff classification, done either by ECHO staff members or by trained field assistants. Each makes its own unique contribution.

The staff classifiers tend to group the cards into more precise and better differentiated categories than do the indigenous classifiers. And they can work longer without fatigue at their exacting task than the indigenous team. In the Pentalith Study (de Mille and Barthol, 1969) the staff team classified as many as 869 cards in one session, whereas the largest number of cards classified by any of the four indigenous teams in one session was 310. The ability to classify a larger number of cards makes it easier to include cards from different groups in the same classification, so that intergroup comparisons can be made in the same frame of reference.

On the other hand, and despite the merits of staff classification, indigenous classification is often indispensable. An advantage of the ECHO method is that ideas and values of the group being studied emerge with relatively little distortion; indigenous classification assures this.

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The quality of indigenous classifications, however, may vary con-
siderably. The resultant categories may be too inclusive or too much
alike; cards may be misclassified, titles may be inaccurate. It is help-
ful to have two or more indigenous classifications to compensate for
such deficiencies.

Although indigenous classifiers usually know little about classify-
ing as a procedure, they know a lot about the values and language of
their own group. If the staff team misclassifies a certain response
because of being unfamiliar with indigenous values or language, the indig-
enous classifiers usually supply corrective information. For example
in the Pentalith study, one respondent's card said that a good thing
would be "to find sufficient time to complete my education," a response
placed by the staff classifiers with others they labeled, Get More Educa-
tion and Improve Self. The indigenous team, however, put the same card
with a group labeled Have Good Working Schedules. The implication missed
by the staff team was that working schedules can determine whether or
not attending school will be possible during time off.

The three ways in which indigenous and staff classifications may
interact to reduce error have been described on pages 23 and 24.

2.   Six Steps in Indigenous Classification
        Three indigenous classifiers work under the supervision of an ECHO
staff member or field assistant. The cards to be classified are shuffled
and divided among the three classifiers. (A single classification session
is confined to one set of ECHO questions, that is, good or bad.)

        Step One. Each classifier works by himself, reading the good
thing (or, in another session, the bad thing) written on each card and
grouping cards together that, in his judgment, say or mean the same
thing.

Step Two. The three classifiers work together, combining all their
separate sets of categories. One member of the team reads aloud the
responses from one of his categories while the other two add cards from
their own groups that fit that category. The result is one unified
classification system.

Step Three. The team reviews the categories by reading the cards
again, correcting errors of classification, combining equivalent cate-
gories or splitting any that seem too complicated, and assigning hard-
to-classify cards either to existing categories or to a miscellaneous
pile.

Step Four. The team writes a label for each pile, following
instructions that the label should be in the form of an answer to the
ECHO question and should summarize all responses in the category. (The
administrator is careful not to prescribe either the groupings of cards
or the wording of titles, giving neither examples nor hints.)

Step Five. The administrator asks the team whether any of the
categories contain unsuitable answers. Occasionally, classifiers reject
a category, saying, for example, "These so-called good things are really
bad things and should not have been included in this classification."

Step Six. In response to the instruction, "Now put these piles
in their order of importance according to how you think or feel about
them," the team ranks its categories in order of "importance." (Rejected
categories go to the low end of the hierarchy.) When the categories are
ranked, their label cards are numbered in that order, number 1 being the
most important category and all the numbers being referred to as cate-
gory numbers. These numbers remain with their labels throughout the
study. (Rejected categories are designated by a decimal jump in num-
bering.)

C.   ECHO SOURCES OF APPROVAL AND DISAPPROVAL

Most of the source responses collected in Project ECHO were answers to the questions: "Who would approve?" and "Who would disapprove?" Table 1 shows a list of ECHO sources of approval and disapproval, with their standard code numbers. Each of these standard sources is a category title, subsuming various source responses. Source number 1, for example, subsumes responses such as: myself, I, me, you, my conscience.

Standardization of sources has been possible because the same source questions were used in numerous studies and because source responses are more concrete and more common to various groups than value responses.

Various findings about ECHO sources have been reported in the Thai Study and Oakland High School Study (Appendix II), the Pentalith Study (de Mille and Barthol, 1969), and by Barthol and Bridge (1967). Most of these findings describe the relative importance of selected sources in different groups; some findings describe the interactions between sources and values in different groups.[*]

Bavelas (1942) stressed the importance of discovering the specific connections between the approved or disapproved behaviors and the sources of approval or disapproval. Methodological findings in Project ECHO confirm those of Kalhorn (1944), who demonstrated that this kind of analysis was both feasible and fruitful.

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[*] Barthol and Bridge (1967) referred to the analysis of source-value interactions as an analysis of the "power structure," a term that may mislead by suggesting that actual social interactions have been observed. The source-value interactions implied in the verbal responses of ECHO Ss are those perceived or assumed by the Ss; their relation to actual social power, past or present, is undetermined. The term "power structure" later gave way to "value and influence patterns" (Barthol and Bridge, 1968).

TABLE 1

STANDARD SOURCES OF APPROVAL AND DISAPPROVAL

1.	Myself	40.	Teacher
2.	Spouse	41.	Principal
3.	Parents	42.	Faculty
4.	Mother	43.	Administration
5.	Father	44.	Boss
6.	Family	45.	Organizations (misc.)
7.	Brothers or sisters	46.	School
8.	Relatives	47.	Employee
9.	Children	48.	Employer
		49.	Superiors
20.	Friends		
21.	Peers	50.	United States
22.	Students	51.	Government
23.	Associates	52.	Church
24.	Boy or girl friend	53.	Minister or priest
		54.	God
26.	Fiance	55.	Professionals
27.	Neighbors	56.	Soldiers
28.	Roommate	57.	Police
29.	Fellow countrymen	58.	Civil servants
30.	Others, people	59.	Liberals
31.	Everyone	60.	Those who approve/disapprove
32.	Society	61.	Good people
33.	Person involved	62.	President
34.	Poor people		
35.	Own group	96.	Don't know
36.	People opposed		
37.	Minority groups	97.	Nobody
38.	Other nationals	98.	Miscellany
39.	Old people	99.	Blank, nothing written

D.   PARAMETERS AND REQUIREMENTS OF THE ECHO METHOD

Section A briefly described and discussed twenty-one procedures (and products) of the ECHO method; Sec. B gave a detailed description and some discussion of classification procedures; and Sec. C presented the standard ECHO sources of approval and disapproval and discussed their significance in the ECHO method. This section will give further details about the use of the ECHO method, referring for some points to supporting evidence.

1.   Variables in the ECHO Questions

Six variables in the ECHO questions have been briefly defined (p. 17). These variables will be discussed further.

Role of the Respondent

Bavelas (1942) pointed out that the role of the respondent could be varied and, particularly, that it could be more or less personal (that is, more or less identified with the respondent himself). Bavelas compared the indirect, impersonal question with a clinical projective play situation,[*] where a child is asked to play with family dolls and, without being specifically instructed to, plays a game about his own family. Role specifications in ECHO questions could be, for example:

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[*]Though Barthol and Bridge (1967) referred to ECHO as a "projective" survey, it should be pointed out that, while ECHO fits some criteria for projective devices, it does not fit others (Lindzey, 1961). Like projective devices, ECHO does elicit multiple and varied responses that could be multidimensionally analyzed; and there is no requirement that ECHO responses be correct. On the other hand, and in contrast to projective devices, the ECHO stimulus is not ambiguous (most $\underline{S}$s understand it the same way); nor does it usually tend to evoke fantasy responses; nor are ECHO responses usually employed to give a holistic picture of an individual personality. Two indispensable criteria for projective devices are: sensitivity to unconscious or latent aspects of personality, and lack of $\underline{S}$ awareness of the variables in which $\underline{E}$ is interested. ECHO responses reflect group values of which the $\underline{S}$ is usually well aware, as he may be well aware of the kind of variable (that is, values) in which $\underline{E}$ is interested. Bavelas limited his comparison with projective devices to the ability of both techniques to remove any psychological threat that might inhibit $\underline{S}$'s responsiveness.

You

A person like you

A person like your friend

A person like your neighbor

A member of your class

A person older than you

A person living in another country

A person you would not like

A person very different from you

These different specifications seem progressively less identified with the $\underline{S}$. Bavelas assumed that the role "a person like you" would be sufficiently impersonal to allow free expression of ideas and also to elicit values prevalent in the respondent group rather than values peculiar to the individual $\underline{S}$. An alternative to such specifications is the completely unspecified role, as in the question, "What is a good thing to do?"

The choice of role specification depends on whether $\underline{E}$ wishes to structure the responses within some particular role (for example, to test a hypothesis or measure empathy) or wishes to elicit the most general and spontaneous array of value responses from the group. Most ECHO research has used "a person like you" or the unspecified role.

Event

Most ECHO research has used the behavioral or thing-to-do event; some studies have used the non-behavioral or thing-to-happen event. In general, the $\underline{do}$ event puts the $\underline{S}$ in a more active role than the $\underline{happen}$ event, though $\underline{Ss}$ may reinterpret the question to satisfy their own needs to be either active or passive.* Other events are possible, such as

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*For example, an active $\underline{S}$ may say, "A good thing to happen is for me to go out and find a job," while a passive $\underline{S}$ may say, "A bad thing to do is to be executed in the gas chamber."

things to think about or things to buy, own, wear, or eat. The more
specific the event, the greater the risk of reducing the number of
responses from each $\underline{S}$.

Valuation of the Event

The questions "What is a good/bad thing to do?" elicit personal
preferences and aversions as well as social obligations and prohibitions;
the $\underline{Ss}$ mention things they would or would not like to do as well as things
they ought or ought not to do. To a considerable extent the personal and
the social responses are in agreement (see Milburn, Barthol, and de Mille,
1968, pp. 14-17; also, Appendix II, Thai Study).

Kalhorn (1944) suggested that $\underline{like}$ and $\underline{dislike}$ could be substituted
for $\underline{good}$ and $\underline{bad}$. In the Thai Study (Appendix II), the like/dislike-
ought/ought not (LODS)[*] question set was developed to solve a translation
problem and was retained as a valuation variant that could discriminate
preferences and aversions from obligations and prohibitions.

Kalhorn also suggested $\underline{fear}$ as a valuation (for example, "Something
you would be afraid to do"), but such further variants were not tested
in Project ECHO.

Reinforcement or Agency

These two variables are treated together because they have not been
used in the same questions and are considered to be alternatives in
question formulation. Reinforcement is a consequence of behavior per-
ceived by $\underline{S}$ and is associated with $\underline{do}$ questions; agency is a relationship
of cause and effect perceived by $\underline{S}$ and is associated with $\underline{happen}$ questions.
Other arrangements would be possible (for example, "What is a bad thing
to do, and what would cause someone to do it?"), but such arrangements
have not been tested.

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[*]See Glossary, Appendix I.

During Project ECHO it was noted that some Ss who answer questions
involving approval and disapproval may persist in giving approval
responses to disapproval questions.   In the East Los Angeles Skill Center
(ELASC) Study (Appendix II), where reading skills were relatively low
even among the "readers," there were numerous responses of the following
kind:

What is a bad thing to do?
To rob.

Who would disapprove?
The robber.

It has been necessary for E to take special pains to make sure that
Ss realize that bad questions call for disapproval responses; this is
achieved by appropriate emphasis in the instructions.

A similar problem has arisen in preparing the LODS question set.
When the questions are, "What is something you would not like to do?"
"Who would disapprove?" the S is not sure whether the second question
means disapproval of doing the thing or disapproval of not doing or not
liking to do the thing. The ambiguity can be removed by rephrasing the
question thus: "Who would disapprove if you did it?"

These problems point up the necessity for pretesting new sets of
questions, or old sets of questions that are to be used in a new
population.

Source

The standard list of approvers and disapprovers (Table 1) was
developed largely from student samples. Though the list has considerable
generality, other populations generate additional sources; in the East
Los Angeles Skill Center Study, for example, several Ss gave the
unemployed as a source. Source lists developed from other kinds of

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questions may be quite different. In the Pentalith Study (de Mille and Barthol, 1969), where a <u>happen</u> question specified "working at Pentalith," the source list included many items, such as working conditions, automation, accident, scheduling, faulty equipment, and union, that do not appear in the list of approvers and disapprovers.

Additional Context

The context that is added to the five variables discussed in the previous paragraphs can make the role or the situation more specific. In the question, "What is a good thing for a person like you to do in the village?" the additional context "in the village" could be a further specification of the role ("a person like you") if the respondent were himself a villager; or it could be a specification of the situation if the respondent were someone whose role had never been defined by village relationships.

Another kind of additional context is the specification of past or future time or conditional mood, to modify the event. Such specifications may include:

> A thing someone did
> A thing someone will do
> A thing someone could do
> A thing that has happened
> A thing that will happen
> A thing that could happen

Past-tense <u>happen</u> questions tend to elicit satisfactions (about good things) or disappointments (about bad things). Conditional <u>happen</u> questions (a thing that could happen) tend to elicit hopes (for good things) or fears (of bad things). In the Pentalith Study (de Mille and Barthol, 1969), past and conditional happen questions were used to study hopes and satisfactions, fears and disappointments of employees.

Additional context tends to limit the scope of the question and may reduce the variety of the responses, and in turn, the number of categories.

Complexity and Conflict

Bavelas (1942) experimented with more complex questions, in which
a conflict of values was introduced. He asked young girls the question:
"What is a good thing to do and someone [source] will praise [reinforce-
ment] you, but your girl friends in the club will scold you?" In this
question the clause, "but your girl friends in the club will scold you,"
is a fixed additional context that introduces a social conflict over
values. Some of the responses were similar to the conditional responses
described on page 30, since they reflected conditions under which
certain values would not apply or could be violated.

Conflict could also be represented in ECHO questions by repetition
of question elements rather than by additional context, thus: "What is
a good thing to do and someone [first source] will praise [first
reinforcement] you, but someone else [second source] will scold [second
reinforcement] you?" Complex questions of this kind were not tested in
Project ECHO, but seem well worth testing.

Complexity and Confusion

A complex question that was used in Project ECHO was: "What is a
good thing that has happened [past event], or could happen [possible
future event], to a person like you?" (de Mille and Barthol, 1969).
This question was meant to cover a wide range, and it did. However, the
combination of the two kinds of events on the same question card resulted
in data that were difficult to analyze, because most Ss did not specify
which of the event questions they were answering, has-happened, or could-
happen. The E concluded that it would have been better to present each
S with five question cards asking the past-event question and five more
asking the possible-event question, rather than ten cards asking a
complex question.

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Going back to the praise-and-scold complex question, confusion could be avoided by stating the whole complex question and then following it with three separate questions, each with a space for writing the answer:

> "What is the good thing?"
> "Who would praise you?"
> "Who would scold you?"

The LODS question set elicits complex data that are fully analyzable because adequately separated.

2.   Repetitions of the ECHO Questions

Bavelas (1942) presented his question to $\underline{S}$s nine times, with progressive intensification after the third and sixth times. Most ECHO studies have used ten cards for each question, and most $\underline{S}$s have filled out all ten cards. To discover whether fewer repetitions would yield equivalent data, four samples were analyzed (see Appendix II, Manila Study). The analysis indicated that 95 percent of the variance in the size of value categories (where size is a function of the number of $\underline{S}$s represented in the category) was determined by the first seven cards filled out by $\underline{S}$. The reduction of the sample to seven cards per question resulted in a trivial loss of categories; the group percentages represented in the categories were slightly lower.

The $\underline{E}$ concluded that 7-card question sets were satisfactory when the number of $\underline{S}$s was approximately 30 or more; that group percentages from 10-card sets should not be compared with those from 7-card sets; that it was advantageous to increase the number of $\underline{S}$s rather than the number of cards per $\underline{S}$; and that the 7-card set was generally preferable to the 10-card set.[*]

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[*] When the LODS question set is used, it is desirable to reduce $\underline{S}$ fatigue by limiting the number of cards per question to seven. Since seven Like and seven Ought questions are a rough equivalent of 14 good questions, the equivalent data collected from each $\underline{S}$ are actually increased by using the 14-card LO (Like, Ought) set instead of the 10-card good set.

3.   Type of Data Collection

Four ways of collecting answers to ECHO questions have been listed: group administration, individual interview, self-administered questions, and data collection by mail.

Group Written Administration

This technique is preferable to the other three because: it is quicker, cheaper, and easier; $\underline{S}$ motivation is more reliable; fewer packets are returned uncompleted; control over extraneous variables is greater; and the data are more comparable to other samples collected in the same way.

Individual Oral Interviews

Because some prospective ECHO $\underline{Ss}$ cannot read or write well enough to understand written instructions and write answers to questions (for example, peasants in Northeast Thailand), some ECHO data have been collected in individual oral interviews. The additional costs of this technique are in the need for a skilled interviewer and in the time required for each interview.

Barthol and Bridge (1967) reported that $\underline{Ss}$ had taken 1 hr 20 min to give 10 good and 10 bad responses. They attributed this lengthy time not to the difficulty of the task for illiterate $\underline{Ss}$ but to the $\underline{Ss}$' desire to talk to someone who was willing to listen. In the East Los Angeles Skill Center Study (see Appendix II), oral interviews took an hour on the average.

In the Vietnam Study (Bridge and Heller, 1968) oral interviews were compared with group written administration, and two methods of recording oral interviews were compared. Forty-seven Vietnamese soldiers were interviewed; approximately half of the interviews were tape recorded, and the other half recorded in writing by the interviewer. The data were classified together into a common system and the two pairs of

resulting distributions compared. The tape recording method apparently did not affect the data in any important way; a significant Spearman rank correlation of +0.83 was found between the hierarchies of Ss whose oral responses were taped and those whose responses were written down.

The Es also compared the oral interview data and the standard written data in the Vietnam Study, obtaining a significant rank correlation of +0.71. This correlation is about the same size as correlations between US universities or between males and females within the same group (see Appendix II, Intercultural College Study); those value orderings are indeed quite similar, but a few large specific differences do exist. For example, the Howard male-female correlation was +0.70, yet 28 percent of the males but no females were represented in the good-thing category, 'Have sexual relations'. Such disappearance of a category is the chief hazard in using the oral interview, where anonymity is not likely and the respondent may believe that the interviewer is judging him. Had the Howard female data been obtained by oral interview, the investigators would have suspected that no females were represented in the category precisely because of the oral interview.

The oral interview is a costly way of eliciting value orderings that are likely to be similar to those obtained with the written instrument but from which whole categories may be missing or otherwise drastically changed. A great chance exists also that some irrelevant characteristic of the interviewer, such as hair color, age, name, sex, or tone of voice, may bias the S's response. The E concludes that, though ECHO data can successfully be collected by oral interview, the written form, wherever applicable, is much preferred.

Self-Administered Questions

When Ss are not in the presence of an administrator while answering the ECHO questions, their motivation may be less, and distractions may be more likely. The lack of oral instructions makes non-compliance with

the written instructions more likely; Bridge and Heller (1968) concluded
that errors were more frequent with self-administered data collection.
In the Arrowhead Training Group Study (Appendix II), the E found that
10 percent of the Ss did not complete their self-administered cards.

Data Collection by Mail

In addition to the faults just attributed to the self-administered
data collection, data collection by mail has the drawback that many Ss
do not return their packets at all. Mail samples tend to be composed of
volunteer Ss and therefore to be less comparable to other kinds of samples.
Nevertheless, in comparing ECHO responses in a group that first had self-
administration and then mail-administration (Arrowhead Training Group
Study), the E could find no difference in the self-administered data
between returners and non-returners.

Only 48 percent of the Arrowhead group returned their packets when
surveyed by mail. Bridge and Heller (1968) sent packets to Vietnamese
civilians through Vietnamese intermediaries and reported a 73-percent
return.

The E concludes that data collection by mail, because it is com-
paratively cheap and convenient, is a useful procedure, though such data
cannot be compared with confidence to data collected in other ways.

4.   Sample Size

Barthol and Bridge (1967) reported that data from subsamples of 15
or 20 people accurately reflected the value hierarchy of a total sample
of 100 or 200 Ss. They concluded that a very small ECHO sample can
yield a useful picture of the major values in a group, but went on to say
that when the E wishes to pinpoint values lower in the hierarchy, larger
numbers of Ss are needed.

Samples in the ECHO project varied from five $\underline{S}$s to around 200 $\underline{S}$s. Many of the larger samples were not homogeneous and were partitioned into subsamples. Homogeneous samples of 30 to 60 $\underline{S}$s were found to yield very satisfactory information.

5. Lower Age Limits

Bavelas (1942) reported that children four years old could answer his orally presented questions but that the fourth-grade level was appropriate for written response. Barthol and Bridge (1967) found that children eight years old could write ECHO answers on IBM cards.

6. Lower Educational Limits

Illiterate and semiliterate $\underline{S}$s can respond to orally presented ECHO questions, and there would seem to be no lower educational limit for such presentation. In the East Los Angeles Skill Center study (Appendix II), 10 of the 30 $\underline{S}$s who wrote ECHO answers had not received education beyond the primary grades, and the data proved satisfactory.

Lower educational limits for classifiers involve the need to read what is written on response cards. In the East Los Angeles Skill Center study, classifiers who had not gone beyond the sixth grade produced categories that were useful to staff classifiers. On the other hand, when indigenous classifications are to be interpreted without modification, higher levels of education are desirable.

7. Data Collection Time Requirement

Adult $\underline{S}$s who can read the instructions with no difficulty can complete 20 question cards in 20 to 35 minutes. Third graders have taken 1-1/2 hr to do the same thing. Oral interviews typically require an hour.

8. Number of Responses to be Classified

Barthol and Bridge (1967) found that the optimum number of cards for untrained classifiers to handle in one session was 250 to 300.

Larger samples can be classified by breaking the session up into two or more periods. Trained classifiers can handle larger numbers of cards without fatigue.

E.   APPLICABILITY OF THE ECHO METHOD

Table 2 shows a variety of samples collected during Project ECHO.[*] One of the main purposes dictating the selection of these different groups was the need to test the applicability of the ECHO method in various populations and to various kinds of problems. This section reports on the problem of translation into foreign languages; the productivity of ECHO in foreign cultures, in special domestic subcultures, in industrial settings, and in training programs; and the ability of ECHO to discriminate between groups.

1.   Translation of ECHO Questions and Instructions

ECHO questions and instructions for question and classification sessions have been translated successfully into Spanish (Barthol and Bridge, 1967; Appendix II, ELASC Study), Thai (Appendix II, Thai Study), and Vietnamese (Bridge and Heller, 1968). The translation of "good" into Thai illustrates the need for painstaking evaluation of the equivalence of terms in different languages; the solution was the LODS question set.

2.   ECHO Productivity in Foreign Cultures

ECHO has elicited analyzable and interpretable data from Cuban refugees (Barthol and Bridge, 1967), Spanish speaking occupational trainees in the United States (Appendix II, ELASC Study), students in

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[*] Missing from this list are 319 Vietnamese soldiers, and civilian men, women, and children surveyed by Bridge and Heller (1968); and 222 similarly mixed Vietnamese surveyed by Lcdr R.A. McGonigal, USN, who read about ECHO in an early report and volunteered to have his interview team collect ECHO data (before an ECHO team had gone to Vietnam).

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TABLE 2

POPULATIONS SAMPLED IN ECHO RESEARCH

Sample	N
Third Grade Pupils	17
Sixth Grade Pupils	24
Hoover High School Students	112
Oakland High School Students	180
Stanford University Students	72
University of California, Los Angeles, Students	137
Northwestern University Students	68
Howard University Students	60
Manila College Students	66
Kenya Students	60
Thai Students, University of California, Los Angeles	5
Thai Students, University of Southern California	23
Thai Students, Thailand	41
Thai Interviewers, Thailand	12
Cuban Exiles	43
Spanish Speaking Occupational Trainees, East Los Angeles Skill Center	45
Student Council Training Group, University of California Santa Barbara	18
Arrowhead Training Group	90
High School Training Group	50
University Training Group, Leeds, England	13
Sorority Members	30
Fraternity Members	35
Nurses	52
Dairy Company Employees	54
Insurance Company Employees	93
Airline Personnel	44
Tracturing Company Employees (Pentalith)	105

Kenya and Manila (Appendix II), Thai students and interviewers (Appendix II), and Vietnamese soldiers and civilian men, women, and children (Bridge and Heller, 1968). The richness and interpretability of the Thai data suggest that ECHO can be used to advantage in Thailand.

3. ECHO Productivity in Special Domestic Subcultures

An unsuccessful attempt was made to collect data from disadvantaged black young men, many of whom were thought to be covertly hostile to the data collection (Appendix II, Watts Study). This failure (due partly to illiteracy in the target group) draws attention to the need for special techniques for collecting ECHO data from hostile groups. The need is pressing, since it would be advantageous to understand the value systems of such groups.

4. ECHO Productivity in Work Settings

ECHO studies were made of dairy company employees (Barthol and Bridge, 1967), insurance company employees (Barthol and Bridge, 1968), airline employees, and "tracturing" company employees. All studies yielded analyzable and interpretable data. The findings in the "tracturing" company study were reported to the company at length (de Mille and Barthol, 1969) and were confirmed by company executives.

5. ECHO Measurement of Changes Due to Training

Four attempts were made (Appendix II: Student Council Study, Arrowhead Training Group Study, High School Training Group Study, and Leeds Study) to measure the effects of brief or extended training programs. Practical difficulties prevented the completion of any of these studies in the original form, and the ability of ECHO to measure changes due to training is still untested.

6. ECHO Discriminations Between and Within Groups

The development of staff classification of multigroup data and the adoption of a better unit of observation (one $\underline{S}$ represented in a category,

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by one or more responses)[*] led to the development of advanced computer programs for analyzing ECHO data (see Appendix III). Using these procedures, the ability of ECHO to discriminate in detail (and statistically evaluate the differences) between groups from different cultures (Appendix II, Intercultural College Study), between groups within the same culture (de Mille and Barthol, 1969), and between logically defined subgroups (males and females) was clearly demonstrated.

In addition to the ability to discriminate between subgroups that are logically defined (for example, male and female, older and younger), it has been suggested that ECHO should be able to discover unsuspected subgroups in a sample originally thought to be homogeneous. Such an ability would add substantial informational utility (through discovery of unexpected information) to an instrument already endowed with that quality. During Project ECHO, the idea was conceived that, by correlating individual Ss with each other (across their representations in categories), Ss of different types could be clustered together. The appearance of two or more mutually exclusive clusters in a group would be strong evidence that the sample was not homogeneous but contained two or more distinct subgroups.

Because of the irregularity of S representation in categories (an S is seldom represented in all categories), the usual assumptions for

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[*] Kalhorn (1944) proposed the S as the unit of observation, but Havighurst and Neugarten (1955) went back to the response as the unit of observation. Since counting S-representations is more difficult than counting responses, whether manually or by machine, the need to switch to the new unit in the Pentalith Study (de Mille and Barthol, 1969) brought the computer programs UNIKOUNT and PERZPROB into existence. In that study, the rank ordering of value categories by response count was correlated +0.90 (Pearson r) with the rank ordering by S-representation. Though the new unit of observation made relatively little difference in the hierarchy of values, it added needed power to the statistical analysis while eliminating distortions caused by isolated one-track Ss whose responses fell into only one or two categories, which were thereby inflated.

inter-S correlation do not hold; special calculations would have to be worked out and tested. The problem was so stated during Project ECHO, but further inquiry was deferred.

F.   EVALUATION OF THE ECHO METHOD

Milburn, Barthol, and de Mille (1968) described and discussed four criteria by which methods of psychological value study may be evaluated:

Reliability: The tendency of a measuring instrument or observation technique to give consistent readings or information under equivalent conditions

Validity: The degree to which measurements or observations represent the phenomena they are supposed or expected to represent

Utility: The degree to which the cost/benefit ratio of an instrument or procedure is favorable

Informational
Utility: The tendency of an instrument or procedure to return unexpected, useful information

These authors compared ECHO to five other methods (content analysis, systematic observation, interview, projective techniques, and non-ECHO surveys) and concluded that ECHO was, on the available evidence, satisfactory in reliability, not apparently deficient in validity, satisfactory in utility, and superior in informational utility.

In this section, some detail will be added to the discussion of these points.

1.   ECHO Reliability
The reliability of an ECHO hierarchy of values has two components:
●   The consistency with which a group responds to the ECHO questions
●   The consistency with which the responses are classified into categories

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Estimates of these two components of reliability have been made in different ways.

a.   Group Response Reliability

Havighurst and Neugarten (1955) estimated the six-month test-retest reliability of responses from 60 boys and 70 girls; computing across 65 value categories, they found correlations of 0.91 for the girls and 0.86 for the boys, which indicate high reliability. In Project ECHO, test-retest reliability was estimated in the Student Council Study (Appendix II), where correlations computed across 19 to 30 categories ranged from 0.71 to 0.84. The lower estimates in the ECHO project may arise from two kinds of difference between the studies: quality of classification and intent to change values by training. Havighurst and Neugarten's data were classified by the Es into many presumably well-formed categories (that included good and bad responses together); the ECHO data were classified into fewer categories by untrained classifiers (goods and bads being separately classified). No known relevant activity intervened between Havighurst and Neugarten's two data collections, whereas the ECHO Ss participated in a training program related to values.

Some other indicators of ECHO group response reliability are the correlations obtained when a group is split into subgroups. In the Intercultural College Study (Appendix II), males and females were separated and correlations between them computed (across the same 147 categories). Table 3 shows the intersex correlations for the three US and three foreign groups. (These are conservative estimates of relia-bility, since one would expect greater differences between males and females than between two random samples from a homogeneous group. All of the correlations are significant.)

A similar estimate of group response reliability is found in Bridge and Heller's (1968) significant Spearman rank correlation of +0.83 between two methods of recording oral data, where Ss were randomly assigned to the two methods.

TABLE 3

CORRELATIONS BETWEEN MALE AND FEMALE SUBGROUPS

Sample	r
University of California, Los Angeles	.83
Northwestern University	.70
Howard University	.66
Manila	.81
Kenya	.70
Thai	.74

b.   Classification Reliability

The usual way of classifying ECHO data is to allow the classifiers to develop their own categories. Two teams of classifiers are likely to have somewhat different criteria for developing categories (a useful difference when E is looking for latent categories). Inspection of the data typically shows that interteam differences in the breadth of categories account for most of the apparent differences in classification. Thus, one classification team develops a category "Do well in school," while a second team distributes those same cards into three categories: "Study hard," "Get good grades," and "Graduate." It is clear that the classifiers are in substantial agreement on the meaning of the responses, but the technique for quantifying this agreement is lacking.

By using a structured sort, in which the category titles from one classification team are used by a second team, the reliability of sorting can be estimated. The second team sorts the same cards used by the first team; if the sorting process is completely reliable, the two teams will sort the cards identically. Structured sorting was done many times during the second research period (Barthol and Bridge, 1967), and the discrepancies seldom involved more than three or four responses in a hundred.

Two conditions exist under which structured sorting may result in lower estimates of reliability. The first condition occurs in a large classification (for example, the Intercultural College Study, with its 5000 good and 5000 bad responses) that has some closely related categories as well as some very inclusive categories, where even well-trained and skillful classifiers arrive at different conclusions if they classify independently; in such a case it is useful to have at least one structured sort to learn which categories are unreliable. The second condition that may result in lower estimates of reliability occurs when the initial classification has been inept and categories are carelessly constructed.

ECHO classification can be improved to meet the needs of the research by refining categories until the teams of classifiers are in agreement.

2. ECHO Validity

Milburn, Barthol, and de Mille (1968) discuss three kinds of validity that are applicable to the ECHO method: construct validity, predictive validity, and concurrent validity.

a. Construct Validity

Construct validity involves the relations between observations predicted or explained by theoretical constructs within a unified theoretical system. Studies that would show evidence of construct validity were beyond the scope of Project ECHO.

b. Predictive Validity

Predictive validity is tested by success or failure in predicting later criterion observations from earlier measurements arising from the instrument to be validated. Studies that would show evidence of ECHO predictive validity would require a longitudinal design and an acceptable criterion measure, the latter being difficult to establish. No predictive studies were conducted during Project ECHO.

c.   Concurrent Validity

Concurrent validity involves relations between the instrument to
be validated and other instruments whose validity is established (or
assumed). Three kinds of concurrent validity checks were used in Project
ECHO: ECHO message sessions, informed opinion, and an alternate
instrument.

The concurrent validity estimates provided by message sessions
(Barthol and Bridge, 1967; 1968) were quite varied, depending in part on
the fineness of discrimination attempted (for example, Cuban exiles versus
Stanford graduate students, an easy discrimination; male versus female
college students, a difficult discrimination) and the relative state of
development of the message session technique itself. A very clear and
interpretable discrimination was observed in the study of insurance
company employees (Barthol and Bridge, 1968).

Evidence of concurrent validity was obtained through informed
opinion in the Kenya, Manila, and Thai studies (Appendix II). Information
based solely on ECHO findings was presented to persons either expert or
well-informed about the indigenous culture; most of the findings were
confirmed; disagreements were few and minor. In the Arrowhead Training
Group Study (Appendix II), ECHO findings were confirmed by one of
the professional group leaders. In the Pentalith Study (de Mille and
Barthol, 1969), the findings were presented to officials of the company,
who confirmed most of them and did not point out any important
diagreements.

Also in the Pentalith Study, evidence of concurrent validity came
from an alternate instrument. Five opinion poll questions were presented
to the Ss along with the ECHO questions; the results of the poll questions
and the ECHO questions were in complete agreement.[*]

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[*] An attempt to test relationships between ECHO categories and Rokeach
value statements is described in the High School Training Group Study
(Appendix II).

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3.   ECHO Utility

Milburn, Barthol, and de Mille (1968) concluded that ECHO utility was probably high, depending on the type of data collection (group or individual) and the size of the population in relation to the customarily small ECHO sample.

In comparison to other methods of value study in which masses of heterogeneous data must be analyzed (for example, content analysis), the ECHO classification and data processing techniques have relatively high utility.

In any kind of research, some costs are involved in the effort to make the findings plausible (as distinct from correct), and cost is also involved in the failure to make the findings plausible. When ECHO is compared with clinical methods, where the inferential process is either hidden from or incomprehensible to all but a few specialists, ECHO can be seen to have the higher utility, since the entire ECHO process can be objectively described, and all of the data can be displayed suitably organized for interpretation by the uninitiated reader. The same comparison would hold for methods of value study in which masses of heterogeneous data are analyzed but techniques are not available for displaying the organized data economically.

4.   ECHO Informational Utility

Specific evidence of ECHO informational utility came from the Arrowhead Training Group Study (Appendix II), where an unexpected and useful observation about one of the training groups was later confirmed by the professional group leader. In the Kenya Study (Appendix II), an essay was written about Kenya from classified ECHO responses; it contained many items of true information about Kenya that E had not expected to discover. These two illustrations of informational utility confirm the common sense impression that an instrument that elicits spontaneous and socially relevant ideas must contain unexpected and useful information.

G.   THEORETICAL GROUNDWORK AND SPECIFIC THEORETICAL FINDINGS

1.   Theoretical Groundwork

The relevance of the ECHO method to the theoretical field of
psychological value study and the similarities and dissimilarities of
ECHO to some other methods in that field are described in the concurrent
report, The ECHO Method and the Study of Values (Milburn, Barthol, and
de Mille, 1968), prepared during the third period of Project ECHO. That
document comprises the theoretical groundwork of the ECHO method.

2.   Specific Theoretical Findings

Project ECHO had no specific theoretical objectives, since effort
was mainly devoted to developing and testing the method. Nevertheless,
there were theoretical findings (Barthol and Bridge, 1967; 1968;
Appendix II), some of which will be discussed below.

a.   Empirical Relation of the Concepts "Good" and "Bad"

Assuming that distinctions between good and bad would be useful,
Kalhorn (1944) analyzed her good and bad data separately; the same
treatment was used in Project ECHO. Havighurst and Neugarten, on the
other hand, took the position that usually "no psychological distinction
was possible between the positive and negative mentions of a category"
(1955, p. 91); most of the categories they produced contained logically
opposite answers to good and bad questions.

After reviewing the literature, Milburn, Barthol, and de Mille
hypothesized as follows:

> It appears that good and bad, though logical opposites,
> are not often opposites on linear dimensions of
> response, but are either scarcely related or related
> in a non-linear fashion [1968, p. 9].

During Project ECHO, an opportunity arose to test this hypothesis.[*] The
Intercultural College Study (Appendix II) produced a list of 67 categories

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[*] This analysis is not reported in Appendix II. For a more complete treat-
ment, see: R. de Mille, Logical and Empirical Oppositeness in Value
Responses, Psychological Reports, 1970, 26, 143-154.

of good things to do and 80 categories of bad things to do. In those two lists were 74 categories whose titles declared them to be logical opposites (as examples, Attend Classes Regularly versus Cut Classes, Help Parents versus Not Help Parents, Get Married versus Not Marry, Be Punctual versus Not Be On Time, Be Clean versus Be Dirty, Be Religious versus Be Irreligious[*]). In each of nine college groups, the numbers of S-representations in the 37 good categories were correlated with those in the 37 bad categories. The correlation coefficients ranged from +0.01 (Howard University) to +0.57 (Manila). Grouping the US samples together and the foreign samples together, the correlations were +0.30 (US) and +0.43 (foreign). The correlation between good and bad with all samples grouped together was +0.17.

It should be noted that this test strongly favored the logical-opposite hypothesis of Havighurst and Neugarten, since the other 73 categories were excluded precisely because no logical opposites could be found for them.

The results appear to say two things:

- First, groups vary considerably in the degree to which their values and disvalues are correlated.

- Second, though values and disvalues are often logical opposites, they should not be assumed to be empirical opposites; the evidence suggests that values and disvalues are largely independent.

b.   Felt Importance of Values

ECHO categories in which most or many members of a group are represented are considered to be important to the group. This measurement

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[*] The paired category titles may be found in Tables 5 and 6; the two members of each pair have the same number in the good-things and bad-things lists. The category numbers of the paired titles are: 1, 3, 4, 5, 6, 7, 10, 11, 15, 16, 20, 21, 22, 23, 24, 25, 30, 33, 34, 40, 44, 45, 50, 52, 53, 55, 56, 57, 60, 61, 70, 71, 73, 74, 80, 81, 93.

of importance by counting people (or in some earlier analyses, by counting responses) is quite different from asking Ss to rate or rank values for importance. Barthol and Bridge (1967) found that:

- When individual Ss ranked their own responses for impor-
    tance, the rankings were not correlated with category
    ranks based on number of responses.

- When indigenous classifiers ranked the categories for
    importance, the rankings were fairly reliable (+0.79) but
    correlated very inconsistently with ranks based on number
    of responses; the correlations obtained were: 0.03, 0.18,
    0.36, 0.42, and 0.83 (the last two being statistically
    significant).

Analysis of the Student Council data (Appendix II) resulted in four significant correlations between importance rankings (by indigenous classifiers) and ranks based on number of Ss; the correlations obtained were: 0.39, 0.55, 0.68, and 0.70.

The E concludes that ECHO category ranks computed either from the number of Ss or from the number of responses do reflect the importance of values to members of the group. Other variables (such as clarity of definition of the value, or lack of psychological discomfort in talking about the value) may also influence the rank of a value; such variables were not studied in Project ECHO.

c.   Values as Group Phenomena

ECHO is assumed to measure values held by groups rather than by individuals or small subsets of individuals in a group. The large cate-gories, in which most of the Ss are represented, seem obviously to be group values; but what about the small categories, in which only a few Ss are represented? Are they group values, less important and so

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mentioned by fewer Ss? Or are they values peculiar to the few Ss who mention them?

An opportunity to investigate this problem arose in the Student Council Study (Appendix II), where the same Ss answered the ECHO questions on two occasions. The E reasoned that if the small categories were group values, they would be mentioned by different sets of Ss on different occasions; on the other hand, if they were peculiar to individuals or small sets of Ss, they would be mentioned by the same Ss on both occasions.

The results favored the first hypothesis. In the small categories, about half of the composition of the set of Ss changed from one occasion to the other. The E concluded that small categories could legitimately be interpreted as group values.

The assumption that values are held in common in homogeneous groups could be further tested by eliciting good and bad value hierarchies from a homogeneous group (so defined by some of their nonvalue characteristics) and then asking the same Ss to rate each of the category titles on a good-bad scale. The hypotheses would be as follows:

1. Regardless of position in the hierarchy, values will be rated good and disvalues will be rated bad by all Ss.

2. Important (high-ranking) categories will be rated toward the extremes of the scale, while less important (low-ranking) ones will be rated toward the middle of the scale.

Support of the first hypothesis would confirm the assumption that values are held in common in homogeneous groups.[*] Slight departures from the predicted result would be interpreted as error attributable to

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[*] Results congruent with this assumption were obtained by Milburn (personal communication) in a study where ECHO values and disvalues were rated on semantic differential scales.

inaccurate category titles, to the inclusion of a few atypical $\underline{S}$s,[*] or to some other cause. Large departures would be interpreted as consequences of a failure to select homogeneous $\underline{S}$s (so defined by their value responses) or as disconfirmation of the hypothesis.

Support of the second hypothesis would confirm the conclusion, stated in the previous section, that the size of a value category reflects its importance to members of the group.

d.   Socialization Studies

Barthol and Bridge (1967) hypothesized that children in the sixth grade would mention Self (as a source of approval and disapproval) more often, and Parents less often, than children in the third grade. The results in a study of 41 children supported the hypothesis. The investigators interpreted the change as a sign that social values were being internalized between the third and sixth grades; a possible alternative interpretation is that the children were maturing and achieving greater mastery.

In the Sorority Socialization Study (Appendix II), the conclusion was reached that the values of new sorority members became more like those of the older members during a six-month period, while the values of the older members remained stable.

e.   Cultural Descriptive Findings

Aspects of the cultures of Thailand, Philippines, and Kenya are reported in the Intercultural College Study, Thai Study, and Kenya Study (Appendix II).

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[*] The responses of deviant $\underline{S}$s are often recognized as deviant by the classifiers and put into a miscellaneous category, where they would be eliminated from a test of these hypotheses.

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V.   CONCLUSIONS

This chapter gives the conclusions reached at the end of Project ECHO.

A.   DEFINITION AND STATE OF DEVELOPMENT

1.   Theoretical Relevance

The ECHO method is appropriate to the theoretical field of psychological value study though not necessarily limited to that field.

2.   Function

The method generates complex information about patterns of value and disvalue in relation to sources of social reinforcement or to causal agents. These patterns are verbally expressed by respondents in a group and reflect the ideas of value and influence that prevail in the group. Detailed discriminations between groups and subgroups in the same culture or in different cultures can be made.

3.   Viability

As described in this report, the ECHO method is ready for use and can be applied by a scientifically trained investigator.

B.   EVALUATION OF METHOD

1.   Reliability

The reliability of group responses to the ECHO questions is satisfactory for use in both theoretical and practical studies. The reliability of the ECHO classification technique is indeterminate, but classifications can be refined and stabilized as need be for any particular research problem. Estimates of the reliability of value hierarchies (combining both the group-response and classification components of

reliability) have been satisfactory. The reliability of source hier-
archies is very high.

2.   Validity

The construct validity and predictive validity of ECHO have not
been tested; no unfavorable evidence has been observed. The concurrent
validity of ECHO (its agreement with other concurrent measures whose
validity is established or assumed) is satisfactory.

3.   Utility

The cost/benefit ratio of ECHO has not been quantified. However,
ECHO provides much information from relatively small and economically
surveyed samples of respondents; and ECHO techniques of data analysis
and display are economical in comparison with earlier techniques for
analyzing and displaying such complex data.

4.   Informational Utility

ECHO is particularly productive of unexpected useful information.

C.   PROVEN APPLICATIONS

During the project, ECHO was successfully applied in the following
four kinds of problems. (It is not suggested that ECHO is limited to
these four.)

1.   Foreign Language

The ECHO questions and the instructions for question sessions were
successfully translated into Spanish, Thai, and Vietnamese.

2.   Foreign Cultures

Analyzable and interpretable data were collected from indigenous
respondents in Thailand, Kenya, Philippines, and Vietnam.

3. Work Settings

Useful data were collected from employees of four different companies; concurrent validity was tested and demonstrated for two of the samples; a detailed study was made of one of the samples.

4. Educational Settings

Many data samples were collected from students; third grade, sixth grade, high school, college, graduate, and professional students were surveyed.

D. APPLICATIONS NOT TESTED

The following four applications of the ECHO method or its products were considered and one of them was attempted, but none of them were successfully tested.

1. Training Device

The use of ECHO information to enhance training was not tested.

2. Evaluation of Training

Three studies were designed to test the ability of ECHO to measure changes due to training; none of these studies could be completed in the original form.

3. Informative Communications

The usefulness of ECHO information for generating informative, discursive communications was not tested.

4. Persuasion

The usefulness of ECHO information for directly generating persuasive messages or indirectly enhancing persuasive techniques was not tested.

E.   METHODOLOGICAL CONCLUSIONS

1.   Classification

The classification technique is indispensable to the ECHO method. Both indigenous and staff classification are useful; each is indispensable for some problems; the interaction of the two is often desirable.

2.   Data Collection Techniques

Answers to ECHO questions may be given orally to an interviewer, or in writing in a group session, or on self-administered forms that are handed to respondents or mailed. Each of these techniques has uses, and corresponding costs and limitations. The data produced by the different techniques are not necessarily comparable. For general use, the group written technique is preferred.

3.   Sample Size

Homogeneous samples of 30 to 60 $\underline{S}$s yield satisfactory information for many problems. When an exhaustive probing of values is desired, many $\underline{S}$s are needed; when only the most prevalent items are of interest, very small samples (15-20) may be useful.

4.   Lower Age Limits

Written responses have been collected from American children eight years old; oral responses have been collected from four-year olds.

5.   Lower Educational Limits

American third-grade children have written answers to ECHO questions. Spanish-speaking classifiers who had not gone beyond the primary grades produced categories that were useful to staff classifiers though not good enough to justify detailed interpretation. No lower educational limit applies to oral ECHO responses.

6.   Data Collection Time

Adult $\underline{S}$s who can read the instructions with no difficulty can complete 20 question cards in 20 to 35 minutes. Third graders have taken 1-1/2 hours to do the same thing. Oral interviews typically require an hour.

7.   Message-Session Technique

The message-session technique gives uneven results, possibly owing to unreliability or unrepresentativeness of the category titles, which come from a team of only three classifiers rather than from the entire group of respondents.

VI   RECOMMENDATIONS

A.   RECOMMENDED PROVEN AND POTENTIAL USES OF THE ECHO METHOD

The first three recommended uses were tested in Project ECHO and proven effective. The other six uses are recommended as potential uses that have not been tested.

1.   Theoretical Research

ECHO should be used to advance our theoretical understanding of human values and behavior.

2.   Cultural Description

ECHO is recommended as an economical and convenient technique for describing the value-and-influence patterns in familiar and unfamiliar populations, foreign or domestic, and for the discovery of many unexpected and useful items of information about unfamiliar cultures.

3.   Intergroup Discrimination

ECHO can discriminate in detail between groups and subgroups in the same culture or in different cultures. Differential studies can be conducted in a variety of settings, including work and educational settings.

4.   Behavior Prediction

It should be possible to improve behavior predictions by adding ECHO variables to other predictor variables.

5.   Training

ECHO information could be used to improve training for field work in foreign cultures or domestic subcultures. In one application, ECHO information from the selected culture could be added to the indoctrination of the students. In another application, the students could answer ECHO questions in the role of a member of the selected culture, or could

be given the responses of members of the culture to classify, and the
congruities and incongruities between student responses (or categories)
and indigenous responses (or categories) could be used as instructional
material. Other training programs where values were relevant could
likewise use ECHO information.

6. Evaluation of Training

Successive ECHO measurements could reflect the progress of student
values toward congruity with the values of members of the selected
culture or subculture. Such progress would constitute increasing
empathy or cross-cultural understanding.

7. Communication

ECHO provides indigenous raw material that should be useful in
constructing discursive informative communications to members of other
cultures or domestic subcultures.

8. Persuasion

ECHO information could guide the construction of persuasive
messages by revealing what values should be included or praised, what
disvalues excluded or deprecated, what sources associated with what
values, and what favored phrases selected.

9. Polling Questions

ECHO should improve the quality of polls by suggesting specific
questions bearing on important group values that would otherwise be
overlooked.

B. SPECIFIC APPLICATIONS

The two following specific applications of ECHO are recommended.

1. Thailand

Findings in Project ECHO strongly suggest that ECHO could be used
profitably by behavioral scientists to learn more about value systems

in rural Thailand and to develop questions and hypotheses that have not been posed by previous observers.

2. Community Relations

The urgent need to bring all useful methods to bear on the domestic disturbances in the United States focuses our attention on the fact that lack of mutual understanding is an important factor in such disturbances. ECHO should be useful in describing the value systems of the opponents, who are also potential collaborators in restoring domestic peace. ECHO could also be used in training programs related to this problem (for example, training for work with disadvantaged groups).

C. RECOMMENDED METHODOLOGICAL WORK

Though the ECHO method has been developed to a point where it is readily useable, further evaluation is needed, and certain specific techniques should be developed or improved.

1. Validity Study

Studies of construct and predictive validity should be conducted, and further evidence of concurrent validity should be collected.

2. Manipulation of ECHO Parameters

A more complete understanding of the instrument should be achieved by systematic manipulation of all of the ECHO parameters (for example, role of the respondent, context, complexity of questions).

3. Exploration of Background Conditions of Values

The social and psychological conditions that make values applicable or inapplicable should be studied.

4. Category Titling Procedure

Because of the suspected weakness in category titling, procedures should be developed for increasing the reliability of category titles.

5. Data Analysis Techniques

Further work should be done on data analysis techniques. Specif-
ically, computer programs should be developed for correlating cate-
gories, identifying latent categories, and correlating or clustering $\underline{S}s$.

6. Hostile Groups

Techniques are needed for collecting data from groups that are
hostile to the usual procedures or personnel.

7. Informative Communications

Techniques are needed for using ECHO information effectively in
constructing informative discursive communications.

8. Persuasive Messages

Techniques are needed for using ECHO information effectively in
guiding the construction of, or supplying material for, persuasive
messages and programs.

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APPENDIX I

GLOSSARY

AGENCY   The causation, prevention, or modification of any
                    event by any agent, as described by ECHO respondents;
                    the part of an ECHO question that specifies agency
                    and elicits responses about agents.

AGENT   Any person, entity, or force that ECHO respondents
                    describe as causing, preventing, or modifying an
                    event.

BADS   ECHO questions, responses, or categories with negative
                    valuation or value, such as "What is a bad thing to
                    do?"

CATEGORY TITLE   A summary statement, or label, attached to a set of
                    value statements or source responses that have been
                    grouped into one category in an ECHO classification.

CLASSIFICATION   An ECHO technique in which responses are grouped into
                    emergent or inherent categories rather than sorted
                    into pre-existing categories.

DISPLAY DECK   A deck of leaders and trailers. The display deck
                    makes it possible to display all responses in a list,
                    sorted as needed.

DISVALUE   A specific term limited to the negative denotations
                    of the term value.

E   A symbol for the experimenter, investigator, or
                    session administrator.

ECHO DATA CARD   A question card, response card, leader, trailer, or
                    reclassification card.

EVENT   A behavioral or nonbehavioral occurrence described
                    by ECHO respondents; the part of an ECHO question
                    that elicits this description. Behavioral events
                    are usually elicited by "to do" questions; non-
                    behavioral events by "to happen" questions.

GOODS
ECHO questions, responses, or categories with positive valuation or value, such as "What is a good thing to do?"

HIERARCHY
A list of category titles in their order of importance for a group of ECHO respondents. The most important category is the one containing responses from the most group members.

IBM CARD
An electronic data processing card.

INDIGEN
A member of the group or population from which a particular sample of ECHO data has been taken.

INDIGENOUS
CLASSIFICATION
Classification done by a team of indigens.

INFLUENCE
Any reinforcement, reinforcer, agency, or agent described by ECHO respondents.

INFORMATIONAL
UTILITY
The tendency of an instrument or procedure to return unexpected, useful information

LEADER
An IBM card in which a response or the beginning of a response has been keypunched.

LODS QUESTION SET
A set of ECHO questions designed to elicit statements about things the respondent would like (L) to do, ought (O) to do, would not like (D) to do, and ought not (S) to do. The symbols D and S can be remembered as the initials of dislike and shun.

MESSAGE
Usually, a short list of high-ranking (important) ECHO value category titles from one group of respondents, or a comparable list constructed from some other information, such as values listed by an expert.

MESSAGE SESSION
An ECHO data collection in which a group of Ss judge alternative messages for importance or acceptability.

N
A symbol standing for the number of Ss or respondents in a group.

QUESTION CARD
An IBM card with ECHO questions printed on it, before use by a respondent or an interviewer.

RECLASSIFICATION CARD	An IBM card on which a response has been printed by computer program PRINDEK.
REINFORCEMENT	The positive or negative reaction of others to one's behavior, as for example, approval or disapproval, praise or blame; the part of an ECHO question that specifies the reinforcement.
RELIABILITY	The tendency of an instrument or observation technique to give consistent readings or information under equivalent conditions.
RESPONSE CARD	A question card after use by a respondent or an interviewer, usually bearing a written response.
ROLE	The point of view that the respondent takes in answering an ECHO question; the part of the question that specifies the point of view, such as "a person like you," or that leaves it unspecified.
$\underline{S}$	A symbol for a respondent or subject in a survey or experiment. Plural: $\underline{S}s$.
SOURCE	A category of reinforcers or agents; the part of an ECHO question that elicits source responses.
SOURCE RESPONSE	A verbal response to an ECHO question such as "Who would approve?" or "Who or what would cause it?"
TRAILER	An IBM card in which the continuation of a response has been keypunched.
UTILITY	The cost/benefit ratio of an instrument or procedure, particularly a favorable ratio.
VALIDITY	The degree to which measurements or observations represent the phenomena they are supposed or expected to represent.
VALUATION	The part of an ECHO question that specifies the goodness or badness of the event.
VALUE	An overt or implicit (inferred) response that attributes goodness or badness to some event or entity; a category of value statements, with their title.
VALUE STATEMENT	A verbal response to an ECHO question such as, "What is a good thing to do?" or "What is a bad thing to do?"

APPENDIX II

DETAILS OF SELECTED STUDIES

A.   INTRODUCTION

The purpose of this appendix is to provide additional details about certain studies whose findings are adduced in the report as illustrations of or support for various methodological or theoretical points. The appendix is organized mainly around different samples of data, and the sections are titled:

INTERCULTURAL COLLEGE STUDY

THAI STUDY

KENYA STUDY

EAST LOS ANGELES SKILL CENTER STUDY

STUDENT COUNCIL STUDY

MANILA STUDY

OAKLAND HIGH SCHOOL STUDY

ARROWHEAD TRAINING GROUP STUDY

HIGH SCHOOL TRAINING GROUP STUDY

SORORITY SOCIALIZATION STUDY

INCOMPLETE STUDIES

The order in which these studies are presented is somewhat arbitrary, because the data were used for several purposes, most of which are not clearly reflected in the titles. The ten completed studies do not exhaust all of the activities of the work period, November 1967 to December 1968, but represent the most important work accomplished during the period that is not reported elsewhere (see: Barthol and Bridge, 1968;

Bridge and Heller, 1968; de Mille and Barthol, 1969; Milburn, Barthol and de Mille, 1968; and Appendix III of this report). The work done during the period January to October 1967 was reported by Barthol and Bridge (1967).

B.   INTERCULTURAL COLLEGE STUDY

1.   Background

This study came about because of three facts:

1.   ECHO data that had been collected from various US colleges during earlier project work were available for additional analysis.

2.   The E had been able to collect data from Thai Ss while on a research planning trip to Thailand.

3.   Unexpected opportunities arose to collect data in Kenya and the Philippines.

2.   Objectives

The study had the following objectives:

1.   To provide methodological findings.

2.   To provide a context in which the Thai Study (reported in Sec. C, herein) could be given cross-cultural meaning.

Both of these objectives were achieved.

3.   Subjects

Table 4 shows the number, sex, age, and grade of the respondents in each group. Each sample had some distinguishing feature. The Stanford class was all male and consisted of first-year graduate students in business administration; the UCLA class was mixed male and female undergraduates (third and fourth year) in a psychology class; the Northwestern class was all first-year undergraduates in a psychology

TABLE 4

COLLEGE STUDY SAMPLES

	N	Male	Female	Age	Year (Class)
Stanford	48	48	–	22–30	5
UCLA*	100	50	50	19–25	3–4
Northwestern	60	30	30	18–19	1
Howard	49	15	34	17–22	1–4
Manila	66	27	39	17–21	1–2
Kenya	60	40	20	16–35	Mixed
Thailand					
(Computer Class)	26	14	12	23–38	5
(Psychology Class)	15	5	10	20–24	2
USC-Thai**	23	18	5	20–24	2–4
Somchai-Thai***	12	12	–	25–30	4+

* University of California, Los Angeles.

** Thai students studying at the University of Southern California.

*** Thai field interviewers in Thailand, all college graduates.

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class and of both sexes; Howard students were all Negro; the Manila sample consisted of two college classes, one all male, the other all female; the all-black Kenya sample included students in a psychology class; the Thailand sample consisted of two classes, one a second-year psychology class, the other a fifth-year education class studying computer operation; the USC-Thai sample consisted of Thai students in the United States; and the Somchai-Thai were an interviewing team in Thailand.

Three of the groups had large numbers of $\underline{S}$s, so it was possible to make them more homogeneous by eliminating atypical $\underline{S}$s. The Stanford sample was reduced to 48 by eliminating the foreign students and the only female; the UCLA sample was reduced to 50 males and 50 females by eliminating students over 26 years of age and freshmen and sophomores; the Northwestern sample was improved statistically by excluding one graduate student, five sophomores, and two who were older than 19, to bring that sample to 30 males and 30 females, all freshmen. The other groups were left intact.

4.   Sampling

Customarily, readers are warned that sampling procedures constrain the generalization of a study. Although the sampling was non-random (the foreign classes used in this study were selected because they were conveniently available to colleagues residing in Manila, Kenya, and Thailand), the practice of combining subgroups (such as Manila males and females, or Thai computer and psychology students) increases the likelihood that the findings are representative of the broader population (such as Manila students or Thai students). If a phenomenon is found in each of several samples of one population or not in any sample of another population, the likelihood that the finding is due to chance decreases. In this study the populations are students in different countries. All results reported in this paper describe particular groups except when the results are specifically identified as having some generality.

5. Method

The data were all collected in the same way. The instructor or E read the standard directions to the class, distributed envelopes containing the ECHO question cards, and collected them when Ss had finished. Biographical information (age, sex, class) was written by Ss on the envelopes. The Ss were assured of anonymity. Approximately two-thirds of the UCLA sample, one-half of the Stanford sample, and all of the Northwestern sample were instructed to answer the question "What is a good/bad thing for a student like yourself to do?" In the other samples, the role assignment was deleted. (Inspection of the US quadrant of Table 10 shows that the role assignment had little if any differential effect on the results.)

The data were first classified by members of the class being surveyed. The Thai responses (the only ones not given in English) were translated, and English-language responses from all of the samples were punched into display decks (see Appendix I). The computer program PRINDEK (see Appendix III) produced uniform cards so that no group was identifiable by card color or language. All cards were mixed together, and a team of three American college students[*] classified the approximately 5000 goods and 5000 bads. Each resulting ECHO category was agreed upon by the classifiers and reviewed and refined by E. Another E then independently reviewed the refined categories, and the two Es conferred to determine the final classification.

Category numbers were assigned so that similar topics or similar value clusters were contiguous. Thus, the values about school were assigned category numbers 1 through 9; those about the nation and society numbers 10 through 16, and so on. The category titles appear in Tables 5 and 6.

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[*]K. Bucknam, H. Goez, and M. Gilson.

TABLE 5

INTERCULTURAL COLLEGE STUDY CATEGORY TITLES

Good Things To Do

1. Study hard and get good grades
2. Participate actively in class and get to know the instructors
3. Attend classes regularly
4. Obey the rules and regulations of school
5. Graduate from school or college
6. Go to graduate or professional school
7. Be educated and have a good educational system
8. Get and use information
9. Engage in extracurricular activities
10. Be loyal to and serve our country
11. Follow the customs and obey the laws of our society
12. Do something useful for society or the community
13. Do something in agriculture
14. Join the military forces
15. Protest against the ills of society
16. Be loyal to and serve the Black Movement
20. Respect, obey, love and honor our parents
21. Help our parents
22. Be kind to our parents
23. Love and take good care of family and spouse
24. Be kind and helpful to brothers and sisters and other relatives
25. Respect and obey elders, teachers and superiors
26. Be polite, respectful and modest
27. Be grateful and appreciative
30. Help others
31. Help the needy
32. Help others educationally
33. Respect the rights and dignity of others
34. Love and forgive one another
35. Be kind, considerate, sympathetic and responsive to others
36. Be honest, sincere, loyal and responsible
37. Be generous and unselfish
38. Be cheerful

40. Be friendly and have friends
41. Be frank and open with others
42. Have good times with the opposite sex
43. Love someone and be loved
44. Have sexual relations
45. Get married
50. Get a job or have a career
51. Work hard, do your best, organize your time well
52. Be punctual
53. Achieve success and recognition
54. Be independent and self-confident
55. Be mature and self-controlled
56. Know and be true to yourself
57. Stand up for your rights and convictions
60. Be the kind of person who can live life fully
61. Do things that are fun
62. Enjoy quiet recreation
63. Participate in sports or athletic activities
64. Practice creative or expressive arts
65. Take a trip
70. Be healthy and do things that promote good health
71. Keep my place neat and clean
72. Lose or gain weight
73. Be attractive or correct in appearance, dress and grooming
74. Make and save money
80. Be religious
81. Be moral and good, avoiding vices and bad company
90. Decide what to do after graduation
91. Drive carefully
92. Get a drivers license or a car
93. Take care of and be kind to pets or animals
94. Make a better world
95. Make this a better country
98. Miscellany

TABLE 6

INTERCULTURAL COLLEGE STUDY CATEGORY TITLES

Bad Things To Do

1. Get bad grades
2. Not study hard
3. Cut classes
4. Violate school rules and regulations
5. Not graduate from school or college
6. Not go to graduate or professional school
7. Be uneducated or not seek education
8. Flunk out of school
9. Cheat
10. Be unpatriotic
11. Not follow the customs of society
13. Misuse the resources of the land
15. Conform to bad customs and beliefs of The Establishment
16. Be disloyal to the Black Movement
17. Be a social dissident, be radical or militant
18. Betray one's country
19. Break the law
20. Not obey, respect, or honor parents
21. Not help parents with household tasks
22. Be unkind or inconsiderate to parents
23. Mistreat or neglect spouse or children
24. Be unkind to brothers, sisters, and other relatives
25. Not respect or obey elders, teachers, or superiors
26. Not get along well with other people
28. Mistreat one's boy or girl friend
29. Marry prematurely or inappropriately
30. Not help others
31. Be disloyal or untrustworthy
32. Exploit or manipulate others
33. Not respect the rights or dignity of others
34. Hate or hold a grudge
35. Use profane or obscene language
36. Be selfish and inconsiderate
37. Condemn, judge, or criticize others
38. Be insincere or hypocritical
39. Look down on others
40. Live alone, without friends
41. Gossip or criticize others behind their back
43. Feel unworthy or unfortunate
44. Have illicit or debasing sexual relations
45. Not marry

46. Commit adultery
47. Be promiscuous
48. Sustain or cause an illicit pregnancy or birth
50. Be socially irresponsible or nonproductive
51. Not try hard to get ahead
52. Not be on time
53. Be a loser
54. Lie or be dishonest
55. Be careless or reckless
56. Be foolish or self-deceptive
57. Not act according to one's real feelings or best convictions
58. Waste time
60. Be the kind of person who cannot live life fully
61. Have too much fun
62. Study or work too hard
63. Be a prostitute
64. Have too many wives
65. Smuggle
70. Neglect one's health
71. Be messy or dirty
73. Disregard one's clothing or personal appearance
74. Waste money or run up debts
75. Gamble
76. Smoke
77. Drink or get drunk
78. Take drugs
80. Be irreligious
81. Do immoral things and have bad companions
82. Hurt people's feelings or cause trouble for them
83. Injure someone
84. Rape someone
85. Kill someone
86. Commit suicide
87. Destroy or deface others' property
88. Steal
93. Hurt or kill animals
95. Government be unfair or inept
96. Be corrupt in government service
98. Miscellany

Each category number was punched in the cards composing that category. All cards were then sorted back into their original sample groupings. Program NUDEK (see Appendix III) then merged the new and old information.

The $\underline{E}$ examined lists of the classified responses to see that each was logical and consistent. To check the appropriateness of the US classification of foreign data, the earlier indigenous classification codes, also listed, were used as a reference. When the Manila data were inspected, using the indigenous category titles to determine whether the US classifiers had assigned the same meaning to the responses, only one card had been misclassified, and two of the three cards in Miscellany might have been placed in another category.

Inspection of the Thai data showed that the US classifiers understood and classified all but three cards appropriately according to their own system but that the Thai organization of the data was sufficiently different to require a more systematic comparison. Program ROCKEM (see Appendix III) was used for this purpose. The important differences between classifications are discussed on page 101 and shown in Table 18 of this appendix. In the Kenya data sample, inspection of each card and comparison with the indigenous classification satisfied $\underline{E}$ that no gross errors had been made.

The classification of sources of approval-disapproval and the assignment of identification numbers was performed by $\underline{E}$, with the exception of the Manila and Thai data, where virtually all source assignments fit the US system and only trivial adjustments were needed.

Each data sample was processed with program UNIKOUNT to obtain $\underline{S}$ count and percentages for both values and sources. Each group was divided by sex and again processed by UNIKOUNT, so that inter-sex differences could be evaluated for each sample. Program PERZPROB

(see Appendix III) was used to compare each group (or subgroup) quanti-
tatively with every other group (or subgroup). Eight principal PERZPROB
tables were generated: group (college) comparisons and subgroup (male-
female) comparisons for goods, bads, approval sources, and disapproval
sources.

A standard computer program was used to compute inter-group and
inter-subgroup correlation coefficients (Pearson r). A standard factor-
analysis program was also used; the results will not be reported but
showed quite clearly that factor analyzing ECHO data should be useful,
since several factors (that is, US, Thai, Kenya, and Manila factors) that
should have emerged, did so.

6. Results

a. Male-Female Differences
The main units of comparison are college classes, but it is impor-
tant to know whether any of the observed differences might result from
identifiable subgroups. An obvious partition is male-female. Correlation
coefficients were computed between the male and female subgroups of the
UCLA, Northwestern, Howard, Manila, Kenya, and Thailand samples. Table 7
shows that the males and females in each sample responded similarly and
that the data can safely be grouped together for intercollege comparisons.

The third data column of Table 7 incorporates the first two data
columns. The correlation coefficients show the similarity with which
males and females from the same colleges responded to the ECHO questions.
The range is 0.66 to 0.83. The coefficients obtained when males and
females are compared across colleges or cultures may put these numbers
in perspective. Thirty other pairings are possible (for example, UCLA
males with Northwestern males, Howard females with Kenya males); of these,
only five correlations were as high as or higher than the lowest entry
(0.61) in Table 7. The correlation between Thai males and UCLA females,

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TABLE 7

CORRELATIONS BETWEEN MALE AND FEMALE SUBGROUPS

Sample	Goods[*]	Bads[*]	Together[*]
UCLA	.86	.79	.83
Northwestern	.72	.70	.70
Howard	.71	.61	.66
Manila	.90	.69	.81
Kenya	.65	.74	.70
Thailand	.82	.68	.74

[*] The terms 'goods' and 'bads' are used to refer to
the questions: "What is a good/bad thing to do?"
Correlations in the last column are computed across
goods and bads.

for example, is only +0.32, though it is one of the higher cross-cultural,
cross-sex correlations.

A conclusion is that male-female value orderings are similar within
cultures, but different across cultures. Within a culture, males and
females are about as much alike as the US colleges are alike; they are
much more alike than colleges in different cultures (see Table 10).

It should be remembered that cross-cultural study may obscure
subtle but important differences within cultures. Intercultural com-
parisons do not state how important a value is within a culture, only
that it exists more in one culture than in another. Similarly, subgroup
differences are overlooked. The value categories that are significantly
different ($p < 0.05$) when males are compared with females of the same

sample are shown in Tables 8 (goods) and 9 (bads). At Northwestern, for example, females held higher values for studying, being kind, working hard, being independent, and knowing one's self; the males were higher on success and sex. At UCLA, females were higher on being generous, participating in the arts, losing weight, and getting a driver's license; males were higher for joining the military. The last is an example of a value that is sex-specific though not widely held in the group.

The principle for studying value differences between college groups is exactly the same as for differences between male and female subgroups. Since male-female differences do exist in every sample, each intergroup difference was checked to determine whether one sex or the other had caused the difference to appear between groups. In the few instances where sex bias was a factor, the lesser intergroup difference (whether based on a male or a female subgroup) was chosen. The intercultural differences discussed on page 90 are, therefore, not attributable to sex bias.

b.   Intercollege Correlations

Table 10 shows the intercorrelations among the nine groups. The coefficients above the diagonal were computed across the 67 good categories; those below the diagonal, across the 80 bad categories.

Comparison of the US quadrant with the unenclosed portions of the table shows that value orderings are similar among the US colleges but relatively different between US and foreign colleges. Comparison of the two (coincidentally equal) circled numbers with their respective counterparts shows that Thai students in Thailand share more good and bad values with Thai students in the United States than with either US students or other foreign students. The general pattern of the table conforms to what would be expected in cross-cultural value research.

TABLE 8

"GOOD TO DO" WITHIN-GROUP COMPARISON OF MALES AND FEMALES[*]

MALES HIGHER				FEMALES HIGHER			
		Percentage				Percentage	
Category	Idea	M	F	Category	Idea	M	F
				UCLA			
14	Join military	14	0	37	Generosity and unselfishness	0	8
				64	Practice creative or expressive arts	2	16
				72	Lose or gain weight	4	18
				92	Get a driver's license or car	0	6
				NORTHWESTERN			
44	Have sexual relations	23	0	1	Study hard, get good grades	37	63
53	Achieve success and recognition	23	3	35	Kind, considerate, sympathetic to others	30	73
				51	Word hard, do your best	10	30
				54	Independent and self-confident	7	27
				56	Know and be true to yourself	17	40
				HOWARD			
10	Be loyal and serve country	20	3	71	Keep place neat and clean	0	21
16	Black Movement loyalty	40	12				
26	Polite, respectful and modest	13	0				
44	Have sexual relations	27	0				
				MANILA			
11	Follow customs and obey laws	44	21	26	Polite, respectful and modest	19	44
31	Help the needy	26	8	51	Work hard, do best (males below all other college samples)	4	21
				KENYA			
5	Graduation from school	30	0	7	Be educated, have a good educational system	50	90
10	Be loyal and serve country	28	5	36	Honest, loyal, sincere, responsible	18	40
11	Follow customs and obey laws	25	5	38	Be cheerful	0	15
63	Participate in sports	45	5	73	Attractive or correct dress or grooming	8	35
70	Be healthy, promote health	30	5	80	Be religious	40	75
				THAILAND			
23	Love and care for family	13	0	21	Help parents	4	31
				30	Help others	38	72

[*]In some instances, readily visible by inspection, the value may be high for one sex, but the value for the other sex is, nonetheless, significantly higher.

TABLE 9

"BAD TO DO" WITHIN-GROUP COMPARISON OF MALES AND FEMALES

	MALES HIGHER				FEMALES HIGHER		
		Percentage				Percentage	
Category	Idea	M	F	Category	Idea	M	F
				UCLA			
55	Be careless or reckless	16	4	40	Live alone, no friends	0	12
77	Drink or get drunk	28	6				
84	Rape someone	8	0				
				NORTHWESTERN			
15	Conform to bad customs and beliefs of Establishment	37	10	9	Cheat	13	40
34	Hate or hold grudge	13	0	38	Insincerity or hypocrisy	3	23
44	Have illicit or debasing sexual relations	20	0	41	Gossip or criticize others behind their back	3	23
73	Disregard one's clothing or personal appearance	13	0				
83	Injure someone	20	3				
				HOWARD			
15	Conform to bad customs and beliefs of Establishment	27	3	57	Not act according to one's real feelings or best convictions	0	24
18	Betray one's country	13	0	60	Be the kind of person who cannot live life fully	0	27
26	Not get along well with other people	40	12	82	Hurt people's feelings or cause trouble for them	0	41
				MANILA			
19	Break the law	33	13	20	Not obey or respect or honor parents	33	87
28	Mistreat one's boy or girl friend	19	0	41	Gossip or criticize others behind their back	7	31
46	Commit adultery	26	8	54	Lie or be dishonest	22	56
76	Smoke	19	0	74	Waste money or run up debts	0	18
77	Drink or get drunk	30	3				
84	Rape someone	11	0				
				KENYA			
29	Marry prematurely or inappropriately	38	5	51	Not try hard to get ahead	20	60
				56	Be foolish or self-deceptive	5	25
				82	Hurt people's feelings and cause trouble for them	25	65
				83	Injure someone	18	55
				THAILAND			
19	Break the law	13	0	26	Not get along well with other people	17	44
55	Be careless or reckless	38	9	73	Disregard one's clothing or appearance	4	31
74	Waste money or run up debts	50	9				
76	Smoke	13	0				
77	Drink or get drunk	42	6				

TABLE 10

INTERCOLLEGE VALUE CORRELATIONS

	Stanford	UCLA	North-Western	Howard	Manila	Kenya	Thailand	USC-Thai	Somchai-Thai
Stanford	–	.69	.67	.70	.28	.18	.44	.46	.30
UCLA	.63	–	.78	.79	.40	.07	.37	.41	.20
Northwestern	.66	.62	–	.74	.45	.09	.62	.60	.30
Howard	.61	.73	.72	–	.46	.14	.42	.42	.13
Manila	.41	.35	.41	.63	–	.36	.44	.53	.46
Kenya	.37	.25	.49	.54	.62	–	.06	.13	.24
Thailand	.46	.30	.41	.33	.48	.29	–	.73	.39
USC-Thai	.42	.19	.32	.14	.24	.12	.73	–	.63
Somchai-Thai	.45	.28	.43	.38	.41	.27	.53	.51	–

c.   Intercultural Value Comparisons

The US colleges were grouped together and compared as a unit with each of the three foreign samples. (The 0.05 level was again used to select categories that differed significantly.)

Tables 11, 12, and 13 show Kenya, Thailand, and Manila compared with the US goods. Reading each side of the tables gives a picture of some of the ways in which the United States differs from other societies and some of the important values in the three foreign countries. For example, one sees a US college factor of independence, ambition, a desire to live life fully, be true to self, and love someone. The foreign students value their parents and elders; they are concerned with modesty and politeness.

If the reader is knowledgeable about any of these three countries, he will recognize that the lists describe well some differences between the United States and the particular country. Further, although the samples were of college students only, and quite small, these category titles describe values that are important in the whole culture. The lists were checked with natives of the three countries or with experts, who judged the information accurate.

When the three foreign countries are compared, lists like those in Tables 14 and 15 can be generated by selecting the significantly different items. Table 14 describes values and behaviors in Thailand; Table 15 does the same for Kenya. The lists are displayed simply to show the kind of information that can be obtained. The process of selecting items is mechanical, but the interpretation requires a small amount of knowledge for some of the items. Thus the category "Go to graduate school" was very small in Thailand compared to the United States. One must ask whether it is small because the Thai take graduate work for granted, or because they do not expect to be graduate students at all. Knowing that

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TABLE 11

SIGNIFICANTLY DIFFERENT VALUE CATEGORIES: KENYA COMPARED WITH US

Kenya Higher	US Higher
Be educated and have a good educational system	Study hard and get good grades
Be loyal to and serve our country	Protest against the ills of society
Do something in agriculture	Help others
Respect, obey, love and honor our parents	Respect the rights and dignity of others
Respect and obey elders, teachers and superiors	Be kind, considerate, sympathetic and responsive to others
Love and forgive one another	Be friendly and have friends
Get married	Love someone and be loved
Get a job or have a career	Achieve success and recognition
Participate in sports or athletic activities (males only)	Be independent and self-confident
	Be mature and self-controlled
Be religious	Know and be true to yourself
Make this a better country	Be the kind of person who can live life fully
	Do things that are fun
	Enjoy quiet recreation
	Make and save money

TABLE 12

SIGNIFICANTLY DIFFERENT VALUE CATEGORIES: THAILAND COMPARED WITH US

Thailand Higher	US Higher
Help our parents (females only)	Graduate from school or college
Be polite, respectful and modest	Engage in extracurricular activities
Be grateful or appreciative	Protest against the ills of society
Help others (females only)	Be kind, considerate, sympathetic and responsive to others
Be generous and unselfish	Have good times with opposite sex
Do things that are fun	Love someone and be loved
Enjoy quiet recreation	Have sexual relations
Participate in sports or athletic activities	Get married
Practice creative or expressive arts	Achieve success and recognition
	Be mature and self-controlled
Be moral and good, avoiding vices and bad company	Know and be true to yourself
	Be kind of person who can live life fully
	Be religious
	Make a better world

TABLE 13

SIGNIFICANTLY DIFFERENT VALUE CATEGORIES: MANILA COMPARED WITH US

Manila Higher	US Higher
Be loyal to and serve our country	Graduate from school or college
Follow customs and obey the laws of our society	Get and use information
Respect, obey, love, and honor our parents	Love and take good care of family and spouse
Help our parents	Be kind, considerate, sympathetic and responsive to others
Respect and obey elders, teachers, and superiors	Have good times with the opposite sex
Be polite, respectful, and modest	Love someone and be loved
Help others	Have sexual relations
Be religious	Get married
Be moral and good, avoiding vices and bad company	Work hard, do your best, organize your time well
	Achieve success and recognition
	Know and be true to yourself
	Be the kind of person who can live life fully
	Do things that are fun
	Enjoy quiet recreation
	Participate in sports or athletic activities
	Practice creative or expressive arts
	Take a trip
	Make and save money
	Drive carefully

TABLE 14

THAILAND: STATEMENTS PREPARED FROM ANALYSIS OF COMPARATIVE DATA

Polygamy exists in the Philippines, Kenya, and to a lesser extent in
Thailand.

The Thai gamble more than the others.

The Thai do not see religion as a separate institution, apparently because
it is so integrated into their lives.

Thai college students expect to graduate from college, but do not expect
to go further.

Customs and traditions are extremely important to the Thai.

Getting along with people is more important to the Thai than to people
from the Philippines or Kenya.

Thai are very conscious of status differences and disapprove of the way
some people handle superior status.

Thai gossip a lot.

Premarital relations are not as common in Thailand as in the United States,
but Thai who visit the United States learn about it.

Thailand has many accidents.

Thai play a lot, but occasionally feel guilty about it.

In Thailand, hard work is not considered a virtue.

Thai men are careless with money; they like to gamble.

It is very important to the Thai to do the morally correct thing.

Thai view property (things, not land) differently than others, but it is
not clear how. (Possibility: theft is so common it is not salient.
Maybe the Thai expect to be tricked and have things stolen.)

Thai believe that some of their government officials are corrupt, and they
care about it.

Drinking is a problem among Thai men.

TABLE 15

KENYA: STATEMENTS PREPARED FROM ANALYSIS OF COMPARATIVE DATA

The land and agriculture is important to Kenya in a way that is quite different from any other.

Smuggling is important in Manila and Kenya; not in others.

Polygamy exists in the Philippines, Kenya, and to a lesser extent in Thailand.

Manila and Kenya do not use illegal or crippling drugs.

Violence is not uncommon in Kenya.

Prostitution is more visible in Kenya.

Drinking is either a major problem in Kenya or it occurs infrequently.

Getting along with people is more important to the Thai than to people from the Philippines or Kenya.

Religion and religious institutions are important in the lives of the people.

Marrying properly is very important in Kenya.

Kenya citizens expect their government to do many things, but they believe the government is inept.

Thailand has comparatively few universities, one may conclude that not many Thai expect to go to graduate school.

C.   THAI STUDY

1.   Translation and Forms of the ECHO Questions

Early in the project, Thai experts were asked to anticipate problems that might arise in a study in Thailand. One of the first problems was whether the standard ECHO questions could be translated into Thai and carry the same meanings as in English. The experts independently agreed on the translation for the key word good: di.

Almost a year later, when the ECHO staff members were actually preparing the Thai question cards, they recognized that although the word di carries some of the meanings of good, the flavor is of moral good, not good in the sense of pleasure. To make the Thai data comparable with data from other countries, two forms of the question were prepared: Form L, "What is something you like [chŏ.b] to do?" and Form O, "What is something you ought [di] to do?" Form D, "Not like" and Form S, "ought not" were used as disvalues. (The letters D and S may be remembered as the initials of Dislike and Shun.) Figures 3 and 4 show the four question cards.*

Thai Ss apparently experienced no difficulty with the new forms of the question. The E concluded that the four Thai questions and the two English questions yield answers that are in general equivalent, but the Thai good questions are handled differently from the bad ones. Some categories in the Thai goods were made up largely of like-to cards (for example, "Do things for enjoyment," "Watch entertaining things") and some largely of ought-to cards (such as, "Be a good relative," "Follow the rules"). The two Thai bads did not separate in this way.

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*The LODS question set was first tested on five Thai who were studying at the University of California, Los Angeles

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สิ่งที่ท่านชอบทำ _____

Siŋ thîi thân chɔ̂ɔb tham _____

_____

ใครที่เห็นชอบด้วยกับท่านถ้าท่านทำ _____

Khraj thîi hĕn chɔ̂ɔb dûaj kàb thân thâa thân tham

โปรดตอบคำถามหน้าต่อไป ⇨
Pròod tɔ̀ɔb khamthăam nâa tɔ̀ɔ paj

What do you like to do?
Who would approve if you did it?

สิ่งที่ท่านไม่ชอบทำ _____

Siŋ thîi thân mâj chɔ̂ɔb tham _____

_____

ใครที่ไม่เห็นชอบด้วยกับท่านถ้าท่านทำ _____

Khraj thîi mâj hĕn chɔ̂ɔb dûaj kàb thân thâa thân tham

โปรดตอบคำถามหน้าต่อไป ⇨

What do you not like to do?
Who would disapprove if you did it?

Figure 3.   The L and D Cards for Thailand Study

สิ่งที่ท่านคิดว่าเป็นความดีที่ควรกระทำ _____

Sìŋ thîi thân khíd wâ pen khwaamdii thîi khuan kràtham. _____

_____

ใครที่เห็นชอบด้วยกับท่านถ้าท่านทำ _____

Khraj thîi hěn chɔɔb dûaj kàb thân thâa thân tham
_____

โปรดตอบคำถามหน้าต่อไป
Prɔ̀ɔd tɔ̀ɔb khamthaam nâa tɔ̀ɔ paj

What do you think is a good thing which one ought to do?
Who would approve if you did it?

สิ่งที่ท่านคิดว่าไม่ควรกระทำ _____

Sìŋ thîi thân khíd wâa mâj khuan kràtham _____

_____

ใครที่ไม่เห็นชอบด้วยกับท่านถ้าท่านทำ _____

Khraj thîi mâj hěn chɔɔb dûaj kàb thân thâa thân tham.

โปรดตอบคำถามหน้าต่อไป

What do you think one ought not to do?
Who would not approve if you did it?

Figure 4. The O and S Cards for Thailand Study

2.   Subjects

Professor Ravipan Somnapan of Bangkok became interested in the
potential of the ECHO method and arranged informally with Barthol to use
ECHO in two Thai classes at the Chulalongkorn University and the
College of Education (Prasarnmit). A graduate class in educational
computer programming (N = 26) and an undergraduate class is psychology
(N = 15) composed the sample. There were 19 male Ss and 22 female Ss.
Ages ranged from 20 to 38. All read English, and most spoke it with
reasonable fluency.

As part of their training and to conduct a pilot project in the
Thai language, ECHO staff members David and Chintana Haas, under Bridge's
direction, recruited and surveyed 23 Thai students attending the
University of Southern California. The resulting data are used for
comparison with the Ravipan samples.

Later, in Bangkok, the Haases also collected data from an available
group of 11 male Thai field interviewers and their director, Dr. Somchai
Rakivichit. All Ss were college graduates. These data are also used
for comparison with the Ravipan samples.

3.   Data Collection

Two sets of test packets had been prepared: LD (Like-Dislike; good
and bad things one would/would not like to do) and OS (Ought-Shun; good
and bad things one ought/ought not to do). The packets were randomly
passed out so that one-half of the computer class received LD packets,
the other half OS packets; each S in the psychology class received both
packets,[*] one half did LD first, the other half OS first.

_____

[*] Each of the 15 Ss in the psychology class was counted as one person
answering LD questions and another person answering OS questions. When L
and O or D and S questions were combined in this study and in the Inter-
cultural College Study, computer outputs showed 30 Ss in the psychology
class, or 56 Ss in the Thailand sample (computer and psychology class
together). To test whether this overweighting of the psychology class
made a difference, the data were reanalyzed counting each S only once, and
results before and after the corrections were correlated. The correlation
was +0.98, indicating that the effect of overweighting was negligible.

The E gave standard ECHO instructions in English after an intro-
duction by Dr. Ravipan. The time for completion was approximately
one-half hour. Each S wrote his age and sex on the envelope.

4.   Classifications

The data were classified in various ways, for various purposes.[*]

1.   As instruction for Dr. Ravipan's psychology students, the
      class was divided into four teams of four persons (a returning
      student made the sixteenth member; he was not an S), each
      team classifying one-half of either goods or bads (LO together,
      DS together). On completion, the two teams working with goods
      merged to consolidate the two classifications of the bads; the
      other two teams merged and consolidated the goods. This
      classification session, then, consisted of one team of eight
      classifying bads. The E observed that eight classifiers
      working as a unit do not make an efficient team.

2.   Six members of the computer class volunteered to classify
      their data in teams of three .

3.   D. and C. Haas classified all of the Thai data together: the
      USC-Thai and the Somchai-Thai research team data, as well as
      the computer class and psychology class data.

4.   The responses from all four groups were translated by the
      Haases, and reclassification decks (see Glossary, Appendix I)
      were prepared. These became part of the Intercultural
      College study and were classified with the other college data.

5.   Effects of the LODS Question Set

After classification of the Thailand and USC-Thai data, the Like (L)
and Ought (O) cards were separated to see whether the results would
change; in the USC-Thai sample, the D and S cards were separated also.

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[*]Pacific Technical Analysts, Inc., Bangkok, graciously lent keypunch
equipment for the first two classifications.

The USC-Thai categories proved virtually identical after the
separation. Only one category in goods or bads had a discrepancy that
approached statistical significance ("To make good use of one's free
time," 12 L cards vs five O cards). In the bads, a few minor changes
in ranking would have occurred if D or S cards had been used alone;
one small category would have disappeared if S had not been used, two if
D had not been used.

Table 16 shows the distribution of L and O cards for the psychology
class; significant differences occur in six of the 20 categories.

Table 17 shows those categories in the psychology and computer
classes that had significantly more L or O cards. Relaxation, fun,
hobbies, entertainment, enjoyment, and travel are things one likes;
honesty, respect, politeness, and self-confidence are obligations.

From this brief analysis, it appears that the LODS question set
can discriminate usefully between preferences and obligations.[*]

6.   US Classification of Thai Data

When classifiers are not indigenous, they can misunderstand the
meanings of responses that would have been quite clear to an indigen.
A team of three US college students classified the Thai samples (along
with the other college data). Classification of each Thai sample was
checked against an earlier indigenous classification. Some responses,
though rationally classified, had not been interpreted by the US team as
the Thai would have interpreted them. The US team had placed responses
about cooking, planting trees, and other apparently domestic things
under "Be kind to parents"; the Thai had classified them under
"Relaxation." Table 18 shows the different ways the two teams viewed
seven sets of responses; each pair of numbered titles was applied to the
same set of responses.

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[*]T.W. Milburn has collected equivalent data in English from 34 DePaul
University students to evaluate the LODS set, but the analysis is not
complete at this writing.

TABLE 16

PSYCHOLOGY CLASS: LIKE VS OUGHT

Category No.		Like	Ought
7	To seek education	12	9
15	Relax and go places for fun	13	2^*
1	Help others	9	12
10	Follow principles of religion and customs	7	10
19	Have hobbies	10	2^*
5	Respect others rights	4	9
3	To be honest	3	9^*
8	Work hard	4	8
6	Have self-confidence	1	7^*
13	Take exercise and engage in sports	7	5
18	Make others happy	5	3
2	Do things useful to society	3	7
16	Know how to get along in society	7	2
12	Respect older people	1	7^*
17	Do things which make one feel happy	4	4
9	Listen to others	4	3
14	Be neat and clean	3	3
20	Miscellaneous	3	3
11	Improve oneself	1	3
4	Repay favors	0	4^*

*Categories in which the number of Like (L) cards differs significantly from the number of Ought (O) cards ($p < 0.05$).

TABLE 17

COMPARISON OF LIKE AND OUGHT

Category No.		No. of Cards	
		Like	Ought
	Psychology Class		
	Categories in which Like is significantly greater than Ought:		
15	Relax and go places for fun	13	2
19	Have hobbies	10	2
	Categories in which Ought is significantly greater than Like:		
18	To be honest	3	9
6	Have self-confidence	1	7
12	Respect older people	1	7
4	Repay favors	0	4
	Computer Class		
	Categories in which Like is significantly greater than Ought:		
10	To watch entertaining things	8	0
12	To do things for enjoyment	12	1
14	To travel	8	1
	Categories in which Ought is significantly greater than Like:		
1	To treat others with respect, politeness and honesty	1	11
3	To be a good relative	2	8
7	To support the nation	2	7

TABLE 18

DISCREPANCIES BETWEEN US AND THAI CLASSIFICATIONS OF THAI RESPONSES

	US Category Title		Thai Category Title
1.	Practice creative or expressive arts	1.	Do things for relaxation
2.	Participate in sports	2.	Do things for relaxation
3.	Be kind to parents (these responses were about domestic chores, such as to cook)	3.	Do things for relaxation
4.	Not follow customs	4.	Lack neatness and politeness
5.	Be dishonest (these responses were about bribery)	5.	Be unpatriotic
6.	Gamble	6.	Not be responsible
7.	Steal	7.	Be immoral

7. Thai Sources of Approval and Disapproval

ECHO sources of approval and disapproval provide useful information
in identifying the authority figures in a culture. The Thai data indicate
that parents are important authorities for both males and females, but
the father is more important to daughters than to sons; 47 percent of the
females and 17 percent of the males named Father as a source of approval;
75 percent of the females and 21 percent of the males named Father as a
source of disapproval. (The Kenya females responded similarly.) The
father-daughter relationship in Thailand seems to be quite different
from that in the United States.

The use of Self as a source may indicate the internalization of
values and a willingness to be responsible for one's own actions

(Barthol and Bridge, 1967). In the Thai sample, Self was named by 62 percent of both males and females. Both sexes named Self with equal frequency in goods and bads, but Self appeared significantly more often on L (Like) and D (Dislike) than on O (Ought) and S (Ought Not) cards, indicating a greater correspondence between preference and self-approval than between obligation and self-approval. Not one female cited Self on an O card; only two did so on S cards; the difference here between males and females is significant at the 0.05 level. Although both males and females look to outside sources for praise and punishment for behaviors that fall in the moral good or bad categories, the females look outside almost exclusively.

Additional substantive findings about Thailand are reported in the Intercultural College Study, in Tables 8, 9, 12 and 14.

D.   KENYA STUDY

1.   Subjects

ECHO data were collected in the standard way from English-speaking black students in Kenya,[*] for inclusion in the Intercultural College Study. The sample comprised 40 male and 20 female students, age 16 to 35. Some were psychology students in a teacher's college; others were high school students. These educational levels were held to be rough Kenyan equivalents for the college samples in the other cultures.

2.   Data Classification

The data were classified in Kenya by indigens. Then the cards were returned to the United States, where they were processed and classified again by the college classification team.

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[*] T.W. Milburn and Marc Ross, the latter a political scientist at Bryn Mawr College and an expert on Kenya, made arrangements with their colleague, E.M.B.H. Ombogodonga, to collect the data and administer the indigenous classifications.

3. Characterizing the Culture from Classified Responses

After use of the Kenya sample in the College Study, a display deck was prepared (see Glossary, Appendix I, for definition), and all responses were listed in their College-Study categories. Barthol used this list to test the proposition that individual ECHO responses, appropriately classified, reveal many things about the culture from which they come. This use of ECHO responses rests on an assumption that respondents, even when facetious, mention things that do exist in their culture (and that they know about) and do not mention things that do not exist (or that they do not know about).

The essay presented below is about Kenya, and was written by K. Bucknam, a college student and a member of the College-Study classification team, working from Barthol's notes (listed in Table 19). Before conducting this exercise, Bucknam knew virtually nothing about Kenya, and Barthol knew only that Kenya, an English-speaking country, is on the east coast of Africa, is populated largely by blacks, and was a scene a few years ago of Mau Mau fighting.

The description is of interest primarily because of the amount of information obtained inexpensively and quickly. Whenever an expert could write a similar document, in more detail and with greater assurance, this use of ECHO would be redundant. However, in a particular village or area for which no current expert is available, this inductive application of ECHO could be of great value.

ECHO Description of Kenya

Kenya has a rugged coastline and an important harbor facility. The normal shipping trade is supplemented by a considerable amount of smuggling. The large forest preserves, in which wildlife is protected, attract tourists, an industry which the government is trying to increase.

The vital rail network largely substitutes for the highway system, which is mostly unpaved; macadam rather than concrete is used for those roads that are paved. The East African Power and Lighting Company provides power, but electricity is still a luxury found only in large cities. The high mountains of Kenya are seen as challenges to mountaineers. Most of the urban homes have gardens.

Agriculture plays a major role in the nation's economy. Money crops have only recently been introduced. The outmoded slash-and-burn system of agriculture is still used, but the government, in the person of the Minister of Agriculture, is trying to introduce new methods. Insects cause considerable damage.

The government of Kenya is paternalistic, and the people expect it to be that way; even the multiparty system has not changed this attitude. The new government is trying to cope with the problem of modernization.

The numerous tribes of the country are jealous and quarrelsome. Trying to unify Kenya, the government is backing an attempt to make Swahili the official language.

Kenya currently enjoys a strong relationship with India. Harambee is strong, but not currently in power. The Maragori have low status in the country.

Universal education has not yet arrived in Kenya, though the current Minister of Education is powerful and is trying to upgrade the school system. Keeping children in school is a problem.

The people of Kenya are quite generous, perhaps because of their religious training. Among many Christians, God is seen as a personal powerful figure. Christianity, to a large extent non-Catholic, is increasing its hold, and currently vies with pagan tribal religions for acceptance by the populace.

Having many children is valued, although the problem of overpopulation is somewhat changing that concept. Children are actively taught the virtues and sins, the importance of obedience to parents, and respect for both parents and elders. The father is a significant person in the family.

Polygamy and intrafamily marriages are not uncommon. Premarital intercourse leads to marriage (presumably if the girl is of acceptable tribe or status). Incest and adultery are disapproved but exist. The custom of paying dowries for wives is a common practice, even though to do so may leave the male's family impoverished.

The young men of Kenya travel in groups and encourage each other to do "bad" things. They often drink and consort with prostitutes, who are fairly numerous. Sports and athletics are very popular, particularly in the schools.

The status of women is high. Education is considered important for women. Though not many are educated, those women who are, have made valuable contribution to the sciences and professions. More women are moving into medicine. The girls are encouraged by family, church, and school to be industrious.

Violence is common. People beat those close to them:
children beat their parents, students beat their teachers,
and even girls sometimes resort to violence and fighting.
Killing is a real problem, and theft and robbery are wide-
spread. Reckless driving, particularly on the poor and
narrow roads, is a major problem. Drugs are not widely used.

This description of Kenya was checked sentence by sentence with
Marc Ross. Most of the statements were judged accurate. Corrections
were:

1.   Most rural, not urban, homes have gardens.

2.   The Kenya government, although paternalistic, is not strong
     and the opposition is not effective.

3.   Harambee is a phrase that means approximately "upward and
     onward."

4.   Keeping children in school is not a problem.

5.   The status of women is beginning to rise; women have entered
     the professions but apparently have not yet made major
     contributions.

6.   It is not clear whether the beating should be interpreted
     literally or symbolically.

7.   Maragori should be spelled Maragoli; the mistake is common
     in Kenya.

The Encyclopedia Brittanica, 1962 edition, was used to check
accuracy further and to determine whether the responses yielded any infor-
mation not included in the reference work. Everything in the essay that
was also mentioned by the encyclopedia was confirmed. Some of the essay
items not mentioned in the encyclopedia article are as follows:

TABLE 19

UNEDITED LIST OF KENYA IMPRESSIONS FROM ECHO RESPONSES

Language: Swahili. But not spoken by everyone. Probably many people speak English; push by government to make Swahili official.

Kenya has a new government.

The Minister of Education is a powerful man.

Kenya is trying to upgrade education.

Women are important and are seen as important contributors to science and the professions.

Government is paternalistic and the people expect it to be that way.

Polygamy is accepted; having many children is valued, but overpopulation is a recognized problem.

The people are generous.

The Minister of Agriculture is a good propagandist.

It is important to respect parents and elders.

God is important.

Education for women is important, but not many are yet educated.

The East African Power and Lighting Company is in Kenya.

Organized sports is important at school.

Some of Kenya is not well explored; it has high mountains.

Kenya has National Parks that tourists visit. These are used as wild life preserves.

Insects are a problem.

Christianity is important in Kenya. Probably not a Catholic country.

Many tribes exist. They are cohesive; there is friction.

Having money crops is recent.

At least two political parties exist.

India has some strong relationship with Kenya. Are Indians part of the merchant class?

Many see birth rate as too high.

The dowry is common practice, but it sometimes hurts very much. Men pay dowries for their wives.

People are ambivalent about the current president.

Electricity is not widespread.

Kenya may not have a good harbor, but it is possible. It has a fairly long coastline, probably rugged.

Many roads are not paved. Concrete is not widely used.

They have a railroad system. Probably very important to economy.

Keeping children in school is a problem.

The Harambee (a tribe? probably a political party) are strong but are not in power.

The slash and burn system of agriculture is still used, but the government is trying to stop it.

Obedience to parents is taught vigorously.

Violence is common. People beat those close to them.

Teachers occasionally get beaten by pupils.

The Maragori have low status.

Intra-family marriages are not uncommon. Incest is disapproved but exists.

Adultery.

Premarital intercourse leads to marriage (presumably if the girl is of acceptable tribe or status).

Children are actively taught the virtues and sins.

Automobiles are driven recklessly.

Prostitution is fairly common.

Smuggling is an industry.

Tribal religions vie with Christianity for hold over the people. Paganism.

The young men travel in groups and encourage each other to do "bad" things.

Killing is a real problem.

Theft and robbery is widespread.

Young men drink and consort with prostitutes.

Juggery and changa have some importance in trade. (I do not understand what this means). The structure of trade probably is different. What are 'Co. societies'?

Gardens are important.

A child sometimes beats his parents.

Girls are trained to be industrious.

Girls sometimes resort to violence and fighting.

They don't use drugs much.

The father is a significant person in the family.

Women are moving into medicine.

Universal education has not yet arrived.

Smuggling

Slash-and-burn agriculture

The high value placed on having many children

Polygamy

Respect for elders

Dowries

Recreation practices of young men

Prostitution

Women in the professions

Reckless driving

Gambling

Drinking

These are significant items. The authors conclude that the described
inductive use of ECHO may well serve as a check on or supplement to
other sources of information about unfamiliar cultures.

E.   EAST LOS ANGELES SKILL CENTER STUDY

1.   Purpose of the Study

     The study was originated in preparation for collecting ECHO data
by oral interviews from Northeast Thai peasants, some of whom cannot
read.

a.   Feasibility of ECHO Interviews

     The first objective was to test the feasibility of collecting ECHO
data by oral interview survey rather than written survey. Specific
questions to be answered were:

     1.   Do respondents readily give ten oral answers to the same
          pair of ECHO questions?

     2.   How much time is consumed in the interview?

b.   Indigenous Classification

The second objective was to observe classification of ECHO data by indigens having less education than indigenous classifiers in earlier studies.   Specific questions were:

1.   Can classifiers having limited reading skills carry out the procedures of classification?

2.   How much time is required?

3.   What problems arise where classification is supervised through an intermediary by an ECHO staff member who does not understand the language of the subject group?

4.   Does the indigenous classification provide useful information?

c.   Characteristics of ECHO Interview Data

A third objective was to explore differences between written and interview ECHO data.   Though this objective had to be subordinated to the first two, some progress could be made toward posing specific questions about differences arising from the interpersonal character of the interview, the greater verbal productivity of the oral respondent, and the lack of anonymity in the interview.

2.   Search for Population

Some difficulty was experienced in finding a suitable population. Two attempts were made to assemble a Spanish-speaking group at the Murphy Ranch, in East Whittier, but descriptions of the population given by the administration proved unreliable.   A group of negroes in Watts was considered next, but arrangements could not be worked out.   Finally, an accessible and suitable group of Spanish-speaking immigrants was found at the East Los Angeles Skill Center, a project of the Division of Adult Education of the Los Angeles City School Districts.

The East Los Angeles Skill Center is funded under the Manpower Development and Training Act to increase employability through vocational training, basic education, and English as a second language. The administration of the Center was willing to participate in the research, and all of the students and personnel involved were most cooperative and helpful.

Additional data were sought from a group of negroes at the Long Beach Community Center, but the group became inaccessible when the administration changed.

3. <u>Selection of Samples</u>[*]

a. Literacy Test

As an analog of the illiterate peasant, "non-readers" were identified at the Skill Center by asking students to read a letter taken from a third-grade Spanish textbook and then answer four multiple-choice reading-comprehension questions based on the letter. In consultation with teachers at the Center, the non-reader was defined as a student who missed any question on this test. Students who missed no questions were called "readers."

b. Interviewed Group

Fifteen male students were selected for interview. Ten of these were non-readers. The other five were readers who resembled the non-readers in age, years spent in the United States, level of Spanish education, and marital status. The statistical description of these two subsamples is given in the first part of Table 20.

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[*] W.H. Hunting and E.P. Hunting selected the samples, prepared the instructions, and supervised the data collection and indigenous classification. J.J. Sanchez, of the Skill Center, acted as field assistant.

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TABLE 20

EAST LOS ANGELES SKILL CENTER--DESCRIPTION OF SAMPLE

	Mean	Std. Dev.	%	Mean	Std. Dev.	%	Probability of Difference (Two-Tailed)
	Interviewed Non-Reader Group (Male, N=10)			Interviewed Reader Group (Male, N=5)			
Age	34.4	12.6		31.0	5.3		NS[*]
Years in US	8.6	8.1		8.0	6.1		NS
Spanish Education Beyond Primary Grades			0.0			0.0	NS
Married			60.0			80.0	NS
	Interviewed Group (Male, N=15)			Written Survey (Male, N=15)			
Age	33.3	10.9		33.5	8.7		NS
Years in US	8.4	7.5		6.5	6.8		NS
Spanish Education Beyond Primary Grades			0.0			66.7	0.000
Married			66.7			66.7	NS
	Written Survey (Male, N=15)			Written Survey (Female, N=15)			
Age	33.5	8.7		33.2	11.4		NS
Years in US	6.5	6.8		6.9	5.2		NS
Spanish Education Beyond Primary Grades			66.7			73.3	NS
Married			66.7			6.7	0.002

[*]Probability greater than 0.05 is called Non-Significant (NS).

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One purpose of including readers as well as non-readers was to
avoid the connotation that only non-readers were to be interviewed, which
might have distorted the results because of respondent or interviewer
reaction to this knowledge. The 15 students were assigned at random to
the interview schedule, and the interviewer did not know which were
readers and non-readers.

c.   Male and Female Written Survey Groups

The written ECHO survey was administered to a class of 15 male
students and a class of 15 female students. As is shown in the third
section of Table 20, these two incidental samples were similar in age,
years of residency in the United States, and education, but not in marital
status. The purpose of these two samples was to provide a frame of
reference in which the results from the interviewed group could be
evaluated.

d.   Limitations of Intergroup Comparability

The comparisons of written and interview data are necessarily gross,
and any apparent differences or similarities are useful only to suggest
hypotheses for further study, since extraneous differences between the
groups were not controlled in sampling. The second section of Table 20
shows a marked difference in educational background between the inter-
viewed group, none of whom had had education beyond the primary grades,
and the male written-survey group, 67 percent of whom had gone beyond
the primary grades; intergroup socioeconomic differences may be inferred
from the educational difference. The most that can be said is that all
samples contained Spanish-speaking immigrants, of similar age and
residency, who were in training at the Center.

e.   Indigenous Classifier Teams

To perform classifications, nine male and three female students
were randomly selected from a group that had scored perfectly on the
literacy test but had not participated in ECHO sessions. These students

served in four three-member teams that respectively classified the data from the interviewed non-reader subgroup, the interviewed reader subgroup, the male written survey group, and the female written survey group. The three female students classified the female data. The three students who classified the interviewed non-reader data had respectively had six, six, and eight years of education.

4.   Spanish-Language Instructions

The E prepared simple English instructions for interviews and group question sessions and for classification sessions. Two counselors at the Skill Center translated these instructions into Spanish. A third person then translated them back into English, to check accuracy of translation.[*] The E found some discrepancies, and the Spanish versions were corrected. The corrected versions were then translated into English by two new people and found satisfactory.

Three possible sets of ECHO questions were discussed with an interviewer and some respondents at another skill center before the following questions were chosen:

¿Qué es algo bueno para hacer?	(What is a good thing to do?)
¿Quién lo aprobaría?	(Who would approve of it?)
¿Qué es algo malo para hacer?	(What is a bad thing to do?)
¿Quién lo desaprobaría?	(Who would disapprove of it?)

5.   Interviews

All interviews were conducted individually by one counselor, who came from a different skill center and consequently did not know any of the respondents personally. The same instructions were read verbatim to each respondent, and the entire procedure was in Spanish. One interview

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[*]The anthropological technique of "back translation" has been discussed by Phillips (1959).

was observed by E, but all others were conducted in private. The respondents were assured that their answers would be treated anonymously and that individual evaluation was not a purpose of the interview. No attempt was made to discourage the respondents from discussing their interview experience with other students.

Repetitions of the ECHO questions by the interviewer took the form:

¿ Qué es algo bueno para hacer?   (What is a good thing to do?)

¿ Qué es otra buena cosa para hacer?   (What is another good thing to do?)

Each interview required an hour or more.

6.   Indigenous Classification Sessions

The interviewer administered the indigenous classification sessions, the first two supervised by E. The procedure followed the normal course. Though E understood no Spanish and had to work exclusively through the bilingual interviewer, no difficulty was encountered in directing the procedure or answering questions from the classifiers.

The indigenous classifiers worked slowly but maintained their interest throughout each session. Though each classifier had about one-third as many cards to classify as in other studies, the sessions lasted as long as, or longer than, the usual classification sessions.

7.   Translation of Data [*]

All responses and indigenous category titles were translated into English and the translations reviewed by E. A display deck was key-punched with English responses and submitted to program PRINDEK, which

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[*] Responses were translated by A. Ordaz; titles by J.J. Sanchez; translations were reviewed by R. de Mille. Sources were classified by R. de Mille. The professional classification team included R. de Mille and R.P. Barthol, assisted by M. Gilson.

produced a reclassification deck showing all responses printed in
English.

8.   Professional Classification*

a.   Sources
     The E classified all source responses and assigned source code
numbers.

b.   Values
     The E reviewed all of the indigenous category titles and made up
a list that included every idea in the indigenous lists. A staff
classifier sorted all responses into the new categories, so far as they
would fit easily. A second classifier reviewed the sorting, added
cards to the categories, refined the system of categories in consultation
with a third classifier, and classified all remaining responses.

9.   Data Processing and Analysis
     Classification codes were punched into the reclassification cards
and then combined with the display deck information by program NUDEK.
The data were then analyzed by programs UNIKOUNT, PERZPROB, and ROCKEM
(see Appendix III).

10. Results

a.   Group and Subgroup Differences
     When groups and subgroups were compared on good things to do, the
all-male interviewed group differed significantly from the male written-
survey group on eight of the 31 categories. By contrast, the male and

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*Responses were translated by A. Ordaz; titles by J.J. Sanchez; transla-
tions were reviewed by R. de Mille. Sources were classified by
R. de Mille. The professional classification team included R. de Mille
and R.P. Barthol, assisted by M. Gilson.

female written-survey groups showed no significant differences. The interviewed subgroups, non-readers and readers, differed significantly on only two categories, and so could be treated together.

The comparisons on bad things to do revealed that the interviewed group differed significantly from the male written-survey group on six of the 36 categories. Again there were no significant differences between the male and female written survey groups. The interviewed subgroups did not differ significantly.

When sources of approval and disapproval were analyzed, the interviewed group differed significantly from the male written-survey group on six of 71 source categories, while the male and female written-survey groups differed significantly on only one category. The interviewed subgroups did not differ significantly.

b.   Intergroup Correlations

The Pearson correlation between the interviewed group and the male written-survey group (computed across 67 good and bad categories) is $+0.37$ $(p < 0.01)$; the correlation between the male and female written-survey groups is $+0.58$ $(p < 0.01)$. The difference between the two correlations is significant at the 0.05 level, indicating a somewhat greater distance between the interviewed and male written-survey group than between the male and female written-survey groups.

c.   Indigenous and Professional Classifications

The indigenous and professional classifications of 100 good and 100 bad responses from the 10 interviewed non-readers were compared, and it was found that 74 good and 62 bad responses were similarly classified by the two teams.

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d.   Productiveness of Interviewed Respondents

No interviewed respondent failed to answer any question. Pro-
ductiveness was similarly high in the written-survey groups, though a
few failures to respond did occur.

11.   Discussion

The differences found between the interviewed and written-survey
males may have arisen from sample differences or from treatment differ-
ences (that is, interview vs written survey) or from both. Evidence
has been presented in Table 20 that the interviewed and written-survey
males were different in educational and presumably social background,
whereas the two written-survey groups were similar in educational back-
ground and presumably in social background. In view of this sampling
difference, no conclusions can be reached about the differential effects
of the two treatments, but some hypotheses to be tested in future studies
are suggested below.

a.   Premise 1

The written survey is impersonal. The interview involves inter-
personal relations.

Hypotheses:

1a.   The interviewer's behavior or other characteristics may elicit a
       consistent reaction from different respondents, causing a sys-
       tematic bias in the data.

1b.   Respondents may react more variably to interviewers than to the
       written task, causing the interview data to be less reliable.

1c.   The fact that the interviewer is waiting for an answer may cause
       the interviewed respondent to answer after less reflection than
       he would in a written survey, thereby restricting the variety of
       his responses.

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1d. The interviewer will reinforce almost any response that is given. Responses reinforced early in the interview may tend to be repeated, thereby restricting the variety of the responses.

1e. The respondent's elaboration of a topic and his involvement in communicating that topic to the interviewer may compete with his subsequent engagement in a new topic, thereby restricting the variety of the responses.

b. Premise 2
The oral respondent may talk at length. The interviewer, having limited space, must then condense the response, often interpreting it or selecting a portion of it.

Hypotheses:

2a. Interpretation or selection may bias the data.

2b. Selection or condensation may restrict the variety of responses.

2c. The interviewer may interpret and record as a second response a statement that the respondent intends only as an extension of previous remarks. The result would be to restrict the variety of the responses.

c. Premise 3
The early part of an interview is spent in establishing rapport and making the respondent comfortable.

Hypothesis:

3. Reactions to the survey itself may be expressed during this period and therefore may not appear in the data.

d. Premise 4
The respondent's feeling of anonymity is markedly greater in the written survey.

Hypothesis:

4.   Hostile or antisocial responses are less likely to appear in the
        interview data. Socially acceptable or conformist responses are
        more likely to appear.

        Although the present study was not intended to test these hypotheses,
some of the data are relevant. Five of the hypotheses mention restriction
of the variety of responses. If such restriction occurred, it should
appear in the data as greater redundancy; respondents should give more
repetitive or closely related responses, which should be classified in
the same categories. Inspection of the data reveals no difference in
redundancy between the interviewed and written-survey groups, and so
these hypotheses (1c, 1d, 1e, 2b, and 2c) receive no support.

        Hypothesis 4 predicts a greater tendency to conformity in the inter-
view data. The interviewed group is higher on bad-thing categories
involving lawbreaking, taking drugs, robbing and stealing. If this can
be interpreted as a more conforming tendency, some support may be found
for hypothesis 4 in future studies.

12.   Conclusions

a.   Feasibility of ECHO Interviews

        ECHO interviews seem feasible as a method of data collection.
Respondents are willing to answer questions and give the required number
of answers. An hour or more is needed for each interview.

b.   Classification by Indigens with Limited Reading Skill

        The indigenous classifiers in this study were able to carry out
the procedures, though they took proportionately two to three times as
long as other teams. Supervision through an intermediary by an E who
does not understand the language spoken by the classifiers is feasible.
The indigenous classifications provide useful information, and agreement
with professional classifications is within expected limits.

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c.   Characteristics of ECHO Interview Data

Similarity between interview and written-survey data in this study was not sufficient to rule out bias due to the interview technique itself.

F.   STUDENT COUNCIL STUDY

1.   Value Changes Resulting from Training

The original purpose of this study was to test whether ECHO would be sensitive to short-term changes in value orderings caused by a brief training program. The data were collected and analyzed, and there were some apparent changes. However, the intrusion of extraneous activities into the training program rendered the outcome ambiguous and uninterpretable, and so it will not be reported.

Subsequently the data were analyzed for other purposes, reported below.

2.   Sample

Fourteen male and four female Student Council members from the University of California, Santa Barbara (UCSB), gave ECHO responses on the first and second day of a two-day training program conducted at a mountain lodge. (These data have not been discussed in relation to the other college samples, because the orientation of the training program was markedly different from the usual college background, and the Ss were a specially selected group.)

3.   Reliability Analysis

The repetition of the question session provided an opportunity for an estimate of reliability. After the data from both question sessions had been combined and classified by a team of UCSB students who had not been respondents in the question sessions, the Session-1 responses were separated from the Session-2 responses, and response frequencies were tabulated for each value category.

This procedure resulted in a Session-1 distribution and a
Session-2 distribution across the same 30 categories of good things to
do, and corresponding distributions across 19 categories of bad things
to do. Pearson correlations (r_{12}) were computed between Session 1 and
Session 2. These correlations appear in Table 21 under the heading,
First-Classification Estimates.

The data were reclassified by another team of non-respondent UCSB
students, and the same steps were repeated, resulting in the Second-
Classification Estimates of reliability, shown in the second part of
Table 21. The first- and second-classification estimates are different
because the two classification teams grouped the cards differently; they
are, however, based on the same responses and are not independent
estimates.

TABLE 21

ECHO GROUP RESPONSE RELIABILITY

	r_{12}
First-Classification Estimates:	
Goods (30 categories)	.71
Bads (19 categories)	.72
Second-Classification Estimates:	
Goods (20 categories)	.73
Bads (20 categories)	.84

These estimates, ranging from 0.71 to 0.84 (p < 0.01) indicate a satisfactory level of reliability. The estimates are probably biased downward, since one purpose of the training program was to change the Council members' value priorities.

The E's interpretation of these results is that ECHO Ss can be expected to respond on different occasions (not widely separated) with a reliability that is probably underestimated at +0.75.

4.   ECHO Categories as Group Phenomena

The foregoing reliability analysis raises a question about the source of the consistency in ECHO responses from one question session to another. Are the responses consistent because individual Ss give the same responses on two occasions, or because the group gives the same responses without any necessary repetition of responses by individuals?

This question is important in the understanding of ECHO, because it is assumed that ECHO measures values of groups. The issue may be clarified if we imagine two extreme cases, which would never be observed in actual research.

In each extreme case, we collect ECHO data from 100 Ss on two occasions, Session 1 and Session 2. We classify Session-1 data and Session-2 data together, and we inspect the resulting 10 value categories to see which individual Ss are represented in which categories at Session 1, and which at Session 2.

In one extreme case, we find that 10 different subsets of Ss are represented in the 10 categories, no S being represented in more than one category. The results for Session 1 and Session 2 are identical (perfect reliability). Our interpretation is that we have inadvertently sampled 10 different populations at the same time.

In the other extreme case, we find that $\underline{Ss}$ 1 to 50 are represented exclusively in the even-numbered categories, and $\underline{Ss}$ 51 to 100 are represented in the odd-numbered categories for Session 1, while the exact opposite is true for Session 2. Reliability here is negatively perfect for individuals but positively perfect for the group--in other words, each individual performs inversely in the two sessions, but the group performs identically. Our interpretation is that we have sampled one homogeneous population, whose stable group values are expressed at different times by different members of the group, but every time by the group as a whole. A more general interpretation is that ECHO does measure group values and not merely aggregates of values uniquely held by individuals.

5.   Respondent Inconsistency Analysis

The Student Council data were further analyzed to see whether the substantial reliability of ECHO was a function of group consistency or of individual consistency.

The categories of good things were put in rank order by the number of $\underline{Ss}$ represented in them (a person who contributed to the same category in both sessions was counted twice in that category); then the category ranks were used as scale points, on a figure like Figure 5, and plotted against the percentage of contributors to each category who had contributed in one session only. The categories of bad things were treated the same way.

The two curves, one for goods and one for bads, were very similar. The good and bad data were combined and plotted again, using intervals of two category ranks to smooth the curve. The result, in Figure 5, shows that in categories to which less than half the group contribute at each session (category size shown by the dotted line), only about half of the contributors are consistent from one session to the next. (In the more important categories, to which more than half the group contribute at

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each session, individual inconsistency is less and less possible as the category size increases.)

If the reliability of ECHO results depended chiefly on consistent performance by individual respondents, then the inconsistency curve would not rise as it does in Figure 5. The progressively smaller categories, which, in any one session, are generated by progressively smaller subsets of $\underline{S}$s, may be legitimately interpreted as pervasive group values, because when the session is repeated, about half of the composition of each small subset changes.

A hypothesis that could be tested is that if several equivalent question sessions were conducted with the same homogeneous group, every $\underline{S}$ would in one session or another be represented in every category.
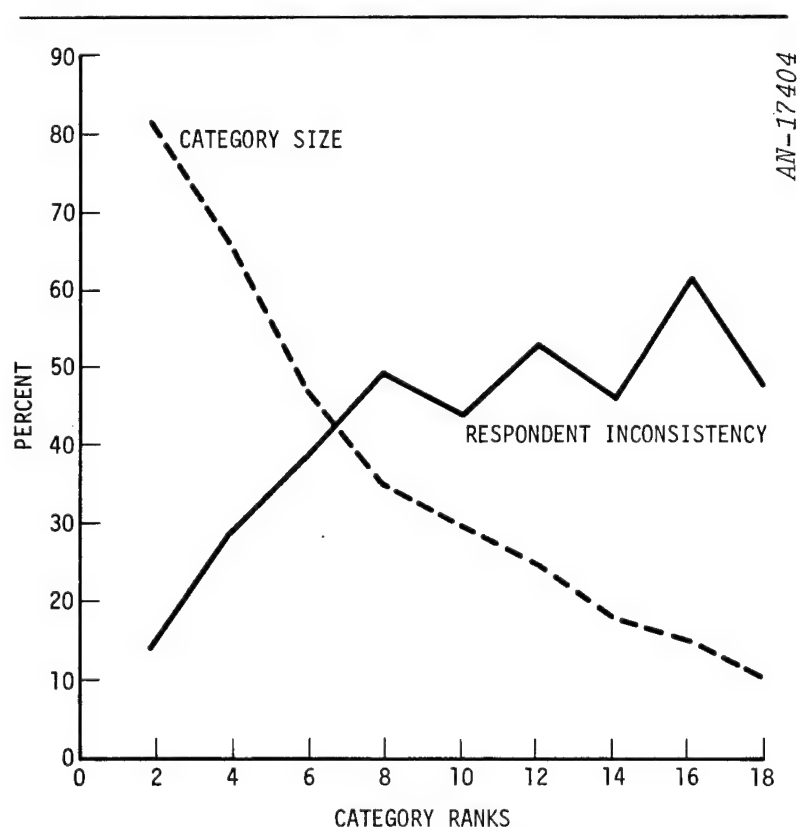
Figure 5. Respondent Inconsistency

6. Analysis of Importance Rankings

Relationships between ECHO category frequency ranks (ranks based on the number of $\underline{S}$s represented in the category or the number of responses composing the category) and importance rankings by classifiers have been reported earlier (Barthol and Bridge, 1967). In the Student Council Study, the four teams of classifiers were asked to rank the categories they had produced according to their feelings about how "important" each category was. Spearman rank correlations, r_s, (Guilford, 1956) were computed between the frequency ranks (based on the number of responses in each category) and classifier rankings. The results are shown in Table 22. The relationships are somewhat inconsistent but suggest that the two measures of importance can be expected to be correlated in the usual ECHO sample.

The $\underline{E}$ concludes that the size of an ECHO category does reflect a variable of felt importance in the respondent group.

TABLE 22

CORRELATION OF CATEGORY FREQUENCY RANKS AND
"IMPORTANCE" RANKING BY CLASSIFIERS

	r_s	p
First-Classification Team:		
Goods (30 categories)	.55	<0.01
Bads (19 categories)	.39	<0.05
Second-Classification Team:		
Goods (20 categories)	.68	<0.01
Bads (20 categories)	.70	<0.01

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G.   MANILA STUDY

1.   Samples

The male S̲s̲ were students at the Philippine College of Arts and
Trades, ages 17 to 21, almost all from provincial towns, mainly Tagalog
with a few Ilocano, Visayan, Pangasinan, and Bicol. None were Chinese.
The female S̲s̲ were elementary education students at Philippine Normal
College, ages 17 to 20, and like the male S̲s̲ in origin and language.

After exclusion of 10 males and 10 females who had not followed the
directions, the samples included 27 males and 39 females.

The male indigenous classifiers were six Tagalog-speaking, middle-
class, urban college students, ages 18 to 23; the females were six
Tagalog-speaking, middle-class, urban research assistants, ages 20 to 25.

2.   Data Collection and Classification[*]

The S̲s̲ were permitted to answer in English or Tagalog; most answered
in English. The classification of male data was done by males, female
data by females. Two value classifications of each sample were made.
After the sources were classified and all Tagalog responses were trans-
lated, the data cards were sent to the United States.

3.   Data Processing

The indigenous classification codes were punched, and the data were
analyzed on program UNIKOUNT. A display deck was prepared.

4.   Intercultural College Study

The Manila samples were included in the College Study, where various
methodological and cultural findings are reported.

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[*]The question and classification sessions were supervised by G.M. Guthrie,
of Pennsylvania State University, who selected the S̲s̲.

TABLE 23

INFORMATION LOST WHEN 10-CARD-PER-S SAMPLES ARE REDUCED TO 7 CARDS PER S

	Data Sample[*]					
	F +	M +	F −	M −	Sum	Mean
Number of Ss	39	27	39	27	132	33.0
Categories						
in 10-card samples	18	15	29	14	76	19.0
in 7-card samples	17	15	28	13	73	18.2
Loss	1	0	1	1	3	0.75
Percent Loss	5.6	0	3.4	7.1		3.9
Redundant Responses						
in 10-card samples	95	108	86	90	379	
in 7-card samples	46	59	45	47	197	
Reduction	49	49	41	43	182	
Percent Reduction	51.6	45.4	47.7	47.8		48.0
Mean Ss per Category						
in 10-card samples	15.4	10.3	9.9	10.6		11.4
in 7-card samples	12.4	8.6	7.7	8.9		9.2
Reduction	3.0	1.7	2.2	1.7		2.2
Percent Reduction	19.5	16.5	22.2	16.0		19.3
Intersample Correlation	.97	.99	.98	.97		.98[**]
Intersample Determination	.94	.98	.96	.93		.95[***]

[*] Female and male groups answering good (+) and bad (−) ECHO questions.

[**] Ten-card sample correlated with 7-card sample over frequencies of Ss represented in each category (Pearson r).

[***] Coefficient of determination (r^2) indicates the proportion of the variance in the 10-card sample that is determined by variance in the 7-card sample.

5. Reduction of 10-Card Sample to 7-Card Sample

To test the hypothesis that the number of ECHO question cards presented to an S could be reduced without serious loss of information, the Manila samples were reduced to seven cards per S and the information loss evaluated.

The Manila samples were chosen for this test for the following reasons:

1. The data had been carefully collected, from cooperative Ss, under good conditions, and Ss who had not followed instructions had been eliminated.

2. The indigenous classifications had produced well-constructed and sufficiently numerous categories.

3. The incidence of nonresponse was low (0.55 blank cards per S for each question).

a. Procedure

The last three of the 10 cards presented to each S were removed from the data decks, and the reduced 7-card decks were processed on program UNIKOUNT.

b. Results

Table 23 shows the results of reducing the data by three cards per S. Four separate samples are analyzed: female and male good things, and female and male bad things. The female and male data are completely independent because they involve different Ss; the good and bad data for either males or females are largely independent because the Ss were answering different questions.

The first line in Table 23 indicates that no Ss were lost when the data were reduced (the numbers were the same before and after reduction and are therefore shown only once).

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The second section of Table 23 shows that the reduction resulted in an average loss of 0.75 categories per sample, or 3.9 percent of the categories.

The third section of the table shows that redundant responses were reduced an average of 48 percent. Redundant responses are responses beyond the first response for one S in one category; they are redundant because once the S has been counted as represented in that category (by his first response), he is not counted again, no matter how many additional responses he may have in the category.

The fourth section shows that the mean number of Ss represented in a category was reduced by 2.2 Ss, or 19.3 percent of the mean number of Ss per category in the 10-card samples. In a table showing percentages of each group represented in each category (the PERZPROB table, for example), the average reduction would be 6.7 percent of the group.

The last section of Table 23 shows coefficients of intersample correlation and determination. In each column, the 10-card sample and the 7-card sample were correlated across numbers of Ss represented in each category. The average intercorrelation is 0.98. To estimate the proportion of variance in the 10-card sample that is determined by (or that can be predicted from) variance in the reduced 7-card sample, coefficients of determination were computed by squaring the coefficients of correlation (Guilford, 1956). The average proportion of variance in the 10-card sample that is completely predictable from the variance in the 7-card sample is 0.95.

c.   Discussion

The fact that no Ss were lost is not surprising, since only three cards per S were removed and each S had 10 cards at his disposal.

The loss of less than one category per sample (about 4 percent of the information), or no more than one category in any of the four samples, is a small price to pay for a 28-percent reduction in the number of responses to be classified or a reduction of 30 percent of the number of question cards to be prepared, administered, and processed. (The difference here between 28 percent and 30 percent results from the fact that a few cards were returned without responses written on them.) The categories lost contain no more than two Ss and are at, or next to, the bottom of the hierarchy.

The reduction of redundant information by 48 percent is an improvement in the sample, particularly when requiring only a 28-percent reduction of responses.

The 6.7-percent reduction in group percentages represented in categories implies that percentages from 7-card samples should not be directly compared with percentages from 10-card samples; the systematic difference would spuriously increase the number of intergroup differences in particular categories. Another way of looking at this reduction is that it constitutes a 19.3-percent loss of information about the numbers of Ss represented in particular categories (less, it may be noted, than the 28-percent general reduction). A third point is that many of the categories in the 10-card samples contain less than 6.7 percent of the respective groups, and yet only one category tends to be lost in each hierarchy; apparently the reduction of group percentages affects the larger categories more than the smaller categories; this suggests that Ss tend to run through their repertory of ideas in the first seven responses.

The fact that 95 percent of the variance in the larger samples can be predicted from the variance in the smaller samples means that we can expect very little difference in the rank order of categories (computed from numbers of Ss represented in categories) obtained from 10-card and 7-card samples (from the same Ss).

d.   Number of ECHO Question Cards: Conclusions

From the foregoing findings, $\underline{E}$ concludes as follows:

1.   ECHO samples obtained from 7-card question sets are fully satisfactory when the number of $\underline{S}$s is approximately 30 or more.

2.   Group percentages from 7-card sets should not be directly compared with group percentages from 10-card sets, but group intercorrelations across numbers of $\underline{S}$s represented in categories may be interpreted with some confidence since 95 percent of the variance in a 10-card sample is determined by the first seven cards.

3.   It is better to collect 301 responses from 43 $\underline{S}$s (seven responses per $\underline{S}$) than 300 responses from 30 $\underline{S}$s (10 responses per $\underline{S}$).

4.   In general, 7-card question sets are to be preferred over 10-card question sets.

H.   OAKLAND HIGH SCHOOL STUDY

The Oakland High School Study was begun in October 1967 with the following methodological objectives:

1.   To improve data collection procedures for larger samples containing various subgroups.

2.   To use indigenous classifiers in producing value hierarchies that would be specific to certain subgroups, and others that would include all $\underline{S}$s.

3.   To test computer programs being developed to process larger amounts of data.

4.   To explore the sensitivity of ECHO by trying to distinguish among certain subgroups through validity checks or message sessions.

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1.   Sample

The Ss were 180 students at a high school in Oakland, California.[*]
Subgroupings used during the data analysis were by:

1.   Ability   Gifted and disadvantaged

2.   Grade   10th, 11th, and 12th grades

3.   Sex   Male and female

4.   Origin   White, black, Mexican, oriental

All data were collected in classrooms.

2.   Classification

Twelve teams of students classified the data from their own groups
(two 10th-grade, two 11th-grade, and two 12th-grade classes); each team
classified both goods and bads (separately), so that all data were
classified twice. Later, two teams classified all of the data into one
inclusive system of good things to do and another of bad things to do.

3.   Data Analysis

Value and source hierarchies were derived for each class group and
for the total sample. The hierarchies were based on response counts
rather than S counts. All results were tabulated and systematically
inspected.

The source data were used to test two hypotheses:

1.   Negro Ss will mention Father as a source less often than
      white Ss.

2.   Disadvantaged Ss will mention Police more often than gifted
      Ss.

Neither of these hypotheses received any support.

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[*] R. Hudson, of the school staff, helped to organize and conduct the
question and message sessions.

Extensive analysis was carried out by means of program ROCKEM, comparing different classifications of the same responses to estimate the degree of congruity (or reliability) of indigenous classifications. In general, the results showed that the few larger categories corresponded across classifications at a nonchance level, but the smaller categories did not.

4.   Message Sessions

The value statements generated by the indigenous classifiers were used to construct messages (lists), intended to appeal specifically to various subgroups. Each class was given several paired lists, with instructions to select the list that most nearly described the $\underline{S}$.

The results were inconclusive. While many $\underline{Ss}$ selected the messages generated from their class data, others selected messages from a different group. Some results were easily explained (for example, 10th-grade gifted $\underline{Ss}$ selected the messages designed for 12th-grade gifted); other results were not explainable (such as 11th-grade disadvantaged $\underline{Ss}$ selected 10th-grade gifted "bads," which the 10th-grade gifted $\underline{Ss}$ rejected).

5.   Discussion

Four methodological findings emerged from this study:

1.   Indigenous classifiers are very useful and sometimes indispensable.

2.   Anomalies in the data are relatively easy to identify.

3.   Responses may reveal much about the environment in which the $\underline{Ss}$ live.

4.   ECHO data analysis techniques were not adequate to make good use of the data.

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As an example of the need for indigenous classifiers, inspection of a category titled "Have sexual relations" revealed the following four responses, among others: "Go down to 7th Street when the sale is on," "Pull train," "Keep the faith, baby," and "Be a hoe." The classifiers were black female 12th graders. The $\underline{E}$'s interpretations of two of the responses were confirmed by the classifiers: "Be a hoe" was the phonetic rendition of "Be a whore"; "Pull train" was slang borrowed from white motorcycle clubs signifying a low-status female member of a group accepting sexual relations with all of the males in the group. The other two responses had to be clarified by the classifiers: on Thursday evenings, the day before payday, the entrepreneurs of the local red-light district, 7th Street, cut rates and the sale is on; "Keep the faith, baby" the classifiers declared, was local slang for intercourse.

As an example of an anomaly in the data, inspection of a category called "Play with sex," which comprised mostly expected responses (necking, petting, drive-in movies, etc.), also included several about rape. Since the act of rape seemed strong for a category about playing with sex, $\underline{E}$ suspected some misunderstanding. A class of 18 disadvantaged 12th graders were asked by the teacher to define "Rape." Eight responses referred to intercourse by force ("My definition would be a girl being taken advantage of sexually. This happens often, but the girl seldom yells rape until it's over."); three were unclassifiable ("Like you rape up some leaves that fall from a tree"); and seven defined rape as being denuded by force ("To take clothes off someone without their consent").

None of the teachers were aware of this widespread nonstandard usage; inquiry among professionals working with disadvantaged groups failed to reveal one who was familiar with it. This is an example of ECHO's high informational utility (see Milburn, Barthol, and de Mille, 1968).

ECHO responses reveal much about the environment in which the S̲s̲
live. Up to this time, the samples had been almost entirely white middle
class; virtually no one had said "A bad thing to do is be a prostitute";
yet this was a frequent response from the black disadvantaged students.
It was easy to ascertain that prostitution was common in the neighborhoods
in which these students lived; the teachers believed that some of the
girls' female relatives were prostitutes. Middle-class girls usually do
not consider prostitution to be a family problem; it is not salient and
rarely mentioned. The E̲ concluded that, despite social disapproval, a
bad thing mentioned by respondents did exist in their culture sufficiently
to cause them concern (though lack of mention would not guarantee absence
of the bad thing). Thus UCLA junior and senior college students mentioned
marijuana; Northwestern freshmen did not; marijuana is thought to be used
more at UCLA than at Northwestern.

The two main weaknesses revealed in ECHO data analysis were the
rather poor quality of indigenous classifications and the insufficient
power of the computer programs to count the most useful observations (that
is, S̲s̲ represented rather than responses included in categories) and
perform statistical tests of ECHO results. These findings led to later
modifications in the relation of indigenous to staff classification,
and to the development of the computer programs UNIKOUNT and PERZPROB.

The failure of the messages to discriminate consistently among the
subgroups might have resulted from poor indigenous classifications and
titling, from insufficient value differences between the subgroups, or
from other causes unknown.

I.   ARROWHEAD TRAINING GROUP STUDY
The Arrowhead Study, begun in September 1967, was designed to
identify changes in values resulting from a training program. In addition,
a second form of the ECHO question was tested: "What is a good/bad thing
to happen?"

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1.   Sample

The Ss were 90 participants in a sensitivity training program, randomly assigned to six training groups.

2.   Study Design and Actual Procedures

Data were to be collected at the beginning and end of the training period, from trainees and from a control group not undergoing the training. Data were collected from the trainees and were classified in group samples by indigens and in a combined system by ECHO staff classifiers. Violating the design, however, the second data samples had to be collected by mail, and 40 percent of the Ss failed to return their packets even after two reminders were sent out.

This turn of events presented an opportunity for comparing values in two groups of known behavioral differences: returners and nonreturners. Mail-surveyors commonly believe that nonreturners are generally different from returners. Surprisingly, the ECHO analysis resulted in virtually identical value hierarchies: only one category out of 107 was significantly different ($p < 0.05$) in the two groups.

Some minor methodological differences between the first data collection in this study and data collections in previous studies should be noted. Instructions were written instead of oral; packets were individually handed to Ss, who were allowed to complete the responses at their convenience; and E had relatively little control over the Ss. Allowed so much freedom, 10 percent of the prospective Ss did not return their data packets.

The new form of the ECHO question, "What is a good/bad thing to happen?" was found to provide data that were generally interpretable and not inferior to the data provided by good/bad-thing-to-do questions. This finding led to the use of the happen questions, somewhat modified, in the Pentalith Study.

3. Clinical Use of ECHO Results

While examining the indigenous value hierarchies of the various
subgroups, E was struck by the impression that, of the three groups that
had received the good/bad-thing-to-do questions, Group 3 was different
from Groups 1 and 2 and, in fact, appeared to be different from most
groups that participate in this kind of self-development program.
Table 24 shows some of the data that caused E to infer that Group 3 was
joyless, unable to accept personal closeness, and alienated from natural
bodily experience.

The Inclusive Title in Table 24 is the title for a category
including responses from all three groups. The same responses were
classified by the indigenous classifiers under category titles peculiar
to each group. The first part of the table shows the representation of
each group in the inclusive category, "Participate in Recreational
Activities." Groups 1 and 2 have responses that were classified mainly
in categories involving enjoyment, but Group 3 has relatively few
responses, and they were classified mainly under "exercise." The second
inclusive title, "Enjoy Sexual Activities," corresponds to self-indulgence,
enjoyment, love, and sex in Groups 1 and 2, but from Group 3 there is
only one response, which was classified by the indigenous team under
"Respond to Conditioned Reflexes."

These intergroup differences are striking, and there were others.
After studying all of the comparisons, the E hypothesized that Group 3
was humorless, emotionally blocked, tense, self-serving, and inter-
personally handicapped. These inferences were confirmed by the director
of the training program, who reported that the Group 3 trainer (an
experienced professional) had complained that his group were inhibited,
dysphoric, and unproductive. The trainer, in turn, was gratified to
learn that a disinterested observer had evidence to support his point of
view, which he had feared might be only a realization of his failure to
lead the group effectively.

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TABLE 24

SELECTED VALUE DIFFERENCES IN THREE TRAINING GROUPS

n*	Group 1 Titles	n	Group 2 Titles	n	Group 3 Titles
Inclusive Title: Participate in Recreational Activities					
9	Indulge self	12	Enjoy personal recreational pleasures	5	Engage in physical exercise
3	Enjoy nature	3	Enjoy beauty	1	Respond to conditioned reflexes
2	Improve self				
1	Enjoy friends				
Inclusive Title: Enjoy Sexual Activities					
5	Indulge self	3	Have love and sex	1	Respond to conditioned reflexes
1	Enjoy friends	1	Care for family and children		

*Number of responses.

This inductive use of ECHO categories requires a background of clinical experience and is not considered a primary use of ECHO. However, it illustrates very well the high informational utility of ECHO, since the finding was wholly unexpected, was confirmed, and proved useful.

J.   HIGH SCHOOL TRAINING GROUP STUDY

This study was designed to identify changes in values resulting from a training program. In addition, the Ss were asked to respond not as themselves but in a special role of "villager." The questions were: "You are a villager. What is a good [bad] thing for you or a villager like you to do?" The Ss, American high school students, were to be tested before and after training for public health field work in Guatemala and Nicaragua, and again after returning from the field. It was predicted that the values of the Ss would progressively become more like those of Ss who had already been through the program and more like values of the field cultures as specified by experts.[*]

After the first data collection and classification (before training), permission to continue the study was withdrawn by the administrators of the training program. The data were used for other methodological purposes, described below.

1.   Sample

The Ss were 50 male and female high school students participating in the training program. The question session was administered to all Ss at the same time, in the usual way.

2.   Classifications

All responses were classified twice, in one day. Male responses were classified by two teams of nonrespondent male indigens, teams MA and MB; female responses by corresponding teams, FA and FB. In the first

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[*]Z. Pazmany contributed to this research design and helped with the selection of Ss and the data collection and classification.

session, the A teams classified goods while the B teams classified bads;
in the second session, the A teams sorted the bads while the B teams
sorted the goods, as described in the next paragraph.

3.   Structured Sorting

To estimate the reliability of the classifications, each team was
asked to sort the cards classified by the other same-sex team under the
category titles that had been assigned by the other team. There were no
clues as to how the other team had grouped the cards; the sorters had
only the category titles and the responses to work with.

The percentages of cards identically sorted were: 60, 69, 66, and
71 percent for male goods, male bads, female goods, and female bads,
respectively. This quite consistent result reflects a fairly low relia-
bility of classification, which is to be expected from untrained
classifiers. Such errors of sorting are thought to arise chiefly from
defects in the original classification, where categories may be poorly
formed or vaguely titled, or where some very similar titles may coexist
(for example, To be discourteous, To be disrespectful).

4.   Classification of Rokeach Values

Before the classification sessions, the $\underline{E}$ inserted into each data
sample 18 cards bearing bogus responses that were in fact paraphrases
of 18 values and 18 disvalues used by Rokeach.[*] The responses are
listed in Table 25; each response was handwritten on a response card and
accompanied by a plausible source response (such as myself, my parents,
the village).

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[*] This test had been suggested by T.W. Milburn and had been used once in
the Pentalith Study, where results were very similar. Rokeach's research
is discussed by Milburn, Barthol, and de Mille (1968, pp. 11-12).

TABLE 25

PARAPHRASES OF ROKEACH INSTRUMENTAL VALUES

Good Things To Do

1. Work hard and aspire ambitiously.
2. Be open minded and tolerant.
3. Perform competently and effectively at everything I do.
4. Be cheerful and joyful.
5. Be neat and tidy.
6. Act bravely and stand up for my beliefs.
7. Forgive others.
8. Be helpful and work for the welfare of others.
9. Act sincerely and honestly.
10. Be imaginative and daring.
11. Act self-reliantly and independently.
12. Act intelligently and reflectively.
13. Act in a consistent, rational, logical, controlled fashion.
14. Be loving and affectionate.
15. Act in a dutiful, respectful, obedient manner.
16. Act politely and courteously.
17. Act dependably and responsibly.
18. Act in a restrained, self-disciplined or self-controlled way.

Bad Things To Do

1. Be lazy or abandon my goals.
2. Behave intolerantly toward others.
3. Act incompetently or ineffectually.
4. Behave in a sad and dismal way.
5. Be slovenly.
6. Act cowardly.
7. Act in an unforgiving fashion toward others.
8. Ignore others who need help.
9. Lie or be insincere.
10. Be unimaginative, constricted, or closed up.
11. Depend upon others instead of relying on ones self.
12. Act stupidly.
13. Be illogical or inconsistent.
14. Act hatefully or harshly toward others.
15. Act disobediently or disrespectfully towards persons in authority.
16. Act discourteously or illmanneredly.
17. Act irresponsibly or be undependable.
18. Act in an unrestrained and undisciplined fashion.

The purpose of this test was to try the Rokeach values as markers or reference points in a value system elicited by ECHO. Since Rokeach intended his listed items to represent different categories covering a wide range of values, it might turn out that the Rokeach cards would be distributed widely through an ECHO value hierarchy; on the other hand, if the Rokeach values were more specific and less differentiated than ECHO value categories, they might coalesce into one or two ECHO categories.

a.   Results

Table 26 shows how the Rokeach cards were distributed in the eight classifications. The first line in the table shows that in the classification of male goods (+) by team A, the 18 Rokeach cards were put into only six of the 20 categories, 11 cards being put into one category titled "Improve oneself by following a good set of ideals."

The tendency of the Rokeach cards to be widely or narrowly distributed is rather inconsistent. The widest distribution is in classification MA-, where 12 categories had Rokeach cards; the narrowest are in classifications FA+ and FB+, where only three categories had Rokeach cards. The mean tendency, shown in the last row of the table, is for the 18 Rokeach cards to fall into about seven categories.[*]

b.   Conclusion

The E concludes that this technique does not provide reliable information on the relation of Rokeach values to ECHO value categories.

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[*]These results are congruent with results in the Pentalith Study (de Mille and Barthol, 1969), where the Rokeach cards were inconsistently distributed. The 40 blockmen's classification team, for example, put nearly all of their bad Rokeach cards (along with 34 genuine responses) into a category they titled "Odd Ball." Other teams distributed the cards somewhat more widely.

TABLE 26

DISTRIBUTIONS OF ROKEACH CARDS IN ECHO CLASSIFICATIONS

Classification	Number of Categories	Categories Including Rokeach Cards	Largest Set of Rokeach Cards	Title Associated With Largest Set
MA +	20	6	11	Improve oneself by following a good set of ideals
MB +	20	8	6	Have a good state of mind
FA +	17	3	16	Have good standards of living and morals
FB +	17	3	15	Conduct yourself properly
MA −	27	12	3 3	Be irresponsible Be hostile and intolerable
MB −	27	8	4	Be discourteous toward others
FA −	18	7	6	Have bad attitudes
FB −	18	7	7	Be irresponsible
Mean +	18.5	5.0	12.0	
Mean −	22.5	8.5	5.0	
Mean Total	20.5	6.75	8.5	

M = Male   B = Team B
F = Female + = Good
A = Team A − = Bad

K.   SORORITY SOCIALIZATION STUDY

Earlier ECHO socialization studies have been reported by Barthol and Bridge (1967). The Sorority Study was conducted at the University of California, Los Angeles, by Bridge and Heller (ECHO Project staff members), who hypothesized that new sorority members (pledges) when exposed for a while to the sorority subculture, would adopt the values of the old members (actives). (The Es defined socialization without reference to any particular stage of development.)

1.   Samples

The Ss were 10 pledges and 20 actives in a sorority that included 46 undergraduate women. Value hierarchies were obtained from the Ss on two occasions, six months apart.

2.   Treatment and Findings

Spearman rank correlations (Guilford, 1956) were computed (across frequencies of responses in 22 categories of good things to do) between each of six pairs of groups and occasions. Using the cross-lagged panel correlation design (Rozelle and Campbell, 1969), the Es found that the values of the actives remained stable while the values of the pledges became more like those of the actives during the six-month period.

L.   INCOMPLETE STUDIES

1.   Watts Study

The purpose of this study was to test the feasibility of collecting ECHO data from disadvantaged blacks where E had little control over the prospective Ss. A staff member of a training center in Watts distributed ECHO packets to young men who attended the center; almost all accepted the packets, but many returned them uncompleted.

Inspection of the completed cards revealed a very low level of literacy, and it was concluded that many of the young men probably had

not been able to understand the instructions. Discussion with the training staff member led to the conclusion that some of the men probably felt too much resentment or hostility to cooperate, although they had pretended to cooperate by accepting the packets. The study was terminated.

The problem of surveying a hostile population was not further addressed in Project ECHO, but it is a problem well worth solving, since the need to understand the values of dissident elements in society is acute. The problem of surveying semiliterates was addressed in the East Los Angeles Skill Center Study (see also, Bridge and Heller, 1968).

2. Leeds Study

ECHO data were collected from participants in a management training program conducted under the auspices of the University of Leeds (England). The purpose of the study was to show effects of the training program. Since only 13 $\underline{S}$s completed all of the materials, the data were not considered reliable enough for a study of value change.

3. Hoover High School Study

ECHO data were collected from 112 students at Hoover High School, Los Angeles. Two purposes were to provide training in data collection for ECHO staff members and to increase the ECHO data base early in the project. The data turned out to be unreliable because of unplanned variations in the instructions to the $\underline{S}$s. The study was terminated.

4. Fraternity Study

A study similar to the Sorority Study was undertaken at a fraternity at the University of California, Los Angeles. Data were collected from 35 fraternity members. Inspections of the data revealed gross failures to follow instructions, which were attributed to poor conditions during the question session (such as distractions and interruptions). The study was terminated.

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APPENDIX III

ECHO COMPUTER PROGRAMS

A.   GENERAL

Five computer programs developed in the ECHO project perform the
essential data processing indicated by $\textcircled{C}$ in Figure 6.[*]

1.   UNIKOUNT

Program UNIKOUNT counts responses in each ECHO category and
respondents having at least one response in each category; computes per-
centages and ranks; and prints tables of rank-ordered categories with
their titles. The typical use of program UNIKOUNT is in the step labelled
Separation into Subgroups.

2.   PERZPROB

Program PERZPROB computes the probability of observing different
percentages of two groups of respondents represented (by their responses)
in a category; and prints tables of percentages and probabilities. The
typical uses of program PERZPROB are at the points labelled Statistical
Tests and Data Display.

3.   ROCKEM

Program ROCKEM compares two ECHO classifications of the same
responses; prints tables showing response frequencies and category titles
from one classification that are associated with response frequencies
and category titles from the other classifications; and can also list the

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[*] Other programs, used for correlation and factor analysis and not
developed in Project ECHO, will not be discussed. Technical support in
developing the ECHO computer programs was provided by J.A. Boucher,
J.T. Bowman, A.W. McIver, and D.L. Rourke.
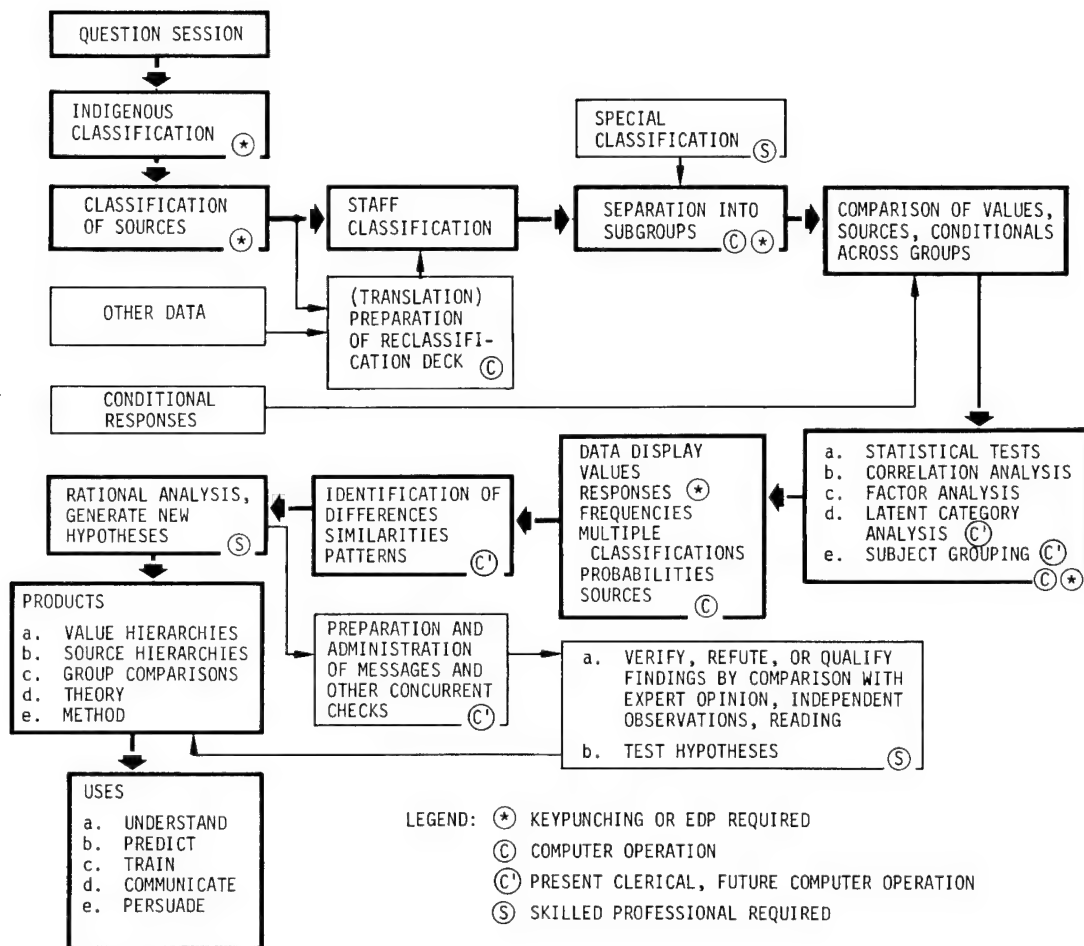
Figure 6. The ECHO Method, 1968

data cards. Typically, program ROCKEM is used after an indigenous and a professional classification have been made of the same responses.

4.   PRINDEK

Program PRINDEK prints cards for classification or reclassification to facilitate classification of translated data or unbiased combination of disparate data samples. The typical use of program PRINDEK is in the step labelled Preparation of Reclassification Deck.

5.   NUDEK

Program NUDEK merges reclassification codes with previous codes and punched responses. The typical use of program NUDEK is after classification of cards printed by program PRINDEK, to combine the new and old classification information on the same set of data cards.

B.   PROGRAM UNIKOUNT

Program UNIKOUNT counts responses in each category and respondents having at least one response in each category.

UNIKOUNT aggregates all occurrences of each ECHO category number punched in a specified field in the data cards, to arrive at the response frequency for each category (one card per response). The program computes the percentage that each response frequency represents of the total number of responses in the analysis. The categories are ordered by card frequency, and rank numbers are computed, rank number 1 (or lowest tie number) being assigned to the category having the most cards. A rank-ordered table is printed, each row showing a category number, and the card frequency, percentage, rank number, and title for that category. Additional information associated with the table includes: (1) a main title (for example, "Ravipan Computer Class"), (2) specification of reference field, that is, the number of the data field from which the information came, (3) total number of ECHO data cards input, (4) number of error cards, if any; that is, cards having no category

TABLE 27

EXAMPLE OF UNIKOUNT OUTPUT

RAVIPAN COMPUTER CLASS: GOODS   FEMALES   GRP X

REFERENCE FIELD -- 2

CATEGORY	RAW FREQUENCY	PERCENT SUBJECTS	RANK	CATEGORY TITLE
4	5	100.0	1.0	TO HELP OTHERS
1	4	80.0	2.0	TO TREAT OTHERS WITH RESPECT
3	3	60.0	3.5	TO BE A GOOD RELATIVE
7	3	60.0	3.5	TO SUPPORT THE NATION
2	2	40.0	7.5	TO FOLLOW THE RULES
5	2	40.0	7.5	TO HAVE FRIENDS
6	2	40.0	7.5	TO LEARN
8	2	40.0	7.5	TO WORK
11	2	40.0	7.5	TO ENGAGE IN ATHLETIC ACTIVITY
15	2	40.0	7.5	TO READ
9	1	20.0	11.5	TO BE ECONOMICALLY SECURE
14	1	20.0	11.5	TO TRAVEL

NUMBER OF SUBJECTS = 5
NUMBER OF EXCLUDED CARDS = 15

number punched in the specified data field, and (5) cards remaining in the analysis after deletion of the error cards.

The second UNIKOUNT table (see Table 27) shows, for each category, the number of respondents (subjects) having at least one response in that category. To arrive at this information, UNIKOUNT excludes any redundant cards for each respondent in the category; that is, one card is excluded every time the unique identification number of the respondent is found to be repeated in one category. The program computes the percentage that the resulting frequency represents of the total number of respondents found in the sample. The other operations are like the operations for the first table. Additional information includes: (1) main title, (2) reference field, (3) number of subjects (respondents), and (4) number of excluded cards.

C.   PROGRAM PERZPROB

Program PERZPROB computes the probability of observing different percentages of two groups of respondents represented in an ECHO category.

The program prints a percentage table (Table 28) showing categories as rows (with or without titles) and groups of respondents as columns. Each cell of the table shows the percentage of one group of respondents (subjects) that were represented in one ECHO category.

The program prints a probability table (Table 28) showing the computed probabilities that a percentage difference as large as the observed difference between each pair of groups, in each category, might have arisen by chance. Since the different groups do not include the same respondents, the percentages, or proportions, are independent, and the sampling distribution of the difference between two proportions is approximately normal.

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TABLE 28

EXAMPLE OF PERZPROB OUTPUT

EAST LOS ANGELES SKILL CENTER   GROUP COMPARISONS   GOOD THINGS TO DO

NUMBER OF CATEGORIES =   10

NUMBER OF GROUPS =   3

DATA WILL BE READ BY COLUMNS

GROUP 1 *** INTERVIEW SURVEY   (N=15)
GROUP 2 *** WRITTEN SURVEY   MALES   (N=15)
GROUP 3 *** WRITTEN SURVEY   FEMALES   (N=15)

	*** G R O U P	1	2	3
	*** N U M B E R O F S U B J E C T S	15	15	15

	*** C A T E G O R Y I N D E X A N D T I T L E ***	*** P E R C E N T A G E S		
1	STUDY AND LEARN	66.7	53.3	33.3
2	BE A GOOD PERSON	46.7	33.3	20.0
3	TEACH AND GUIDE OUR CHILDREN	46.7	33.3	53.3
4	HELP OTHERS	26.7	40.0	53.3
5	SUPPORT YOURSELF BY WORKING AT YOUR TRADE	66.7	20.0	20.0
6	HELP THE POOR PEOPLE	33.3	60.0	33.3
7	HAVE SOCIAL PROGRESS	6.7	46.7	20.0
8	IMPROVE THE EDUCATIONAL SYSTEM	6.7	40.0	53.3
9	EXERCISE MORE CONTROL OVER YOUNG PEOPLE	0.0	26.7	46.7
10	ALWAYS TRY TO IMPROVE YOURSELF, NOT SLOW DOWN OR GIVE UP	33.3	40.0	26.7

TWO-TAILED PROBABILITY OF A DIFFERENCE OF THIS MAGNITUDE ARISING BY CHANCE

	1/ 2	1/ 3	2/ 3
1	.707	.143	.461
2	.707	.245	.681
3	.707	.997	.461
4	.700	.265	.716
5	.027	.027	1.000
6	.271	1.000	.271
7	.039	.593	.245
8	.085	.017	.716
9	.107	.010	.449
10	.998	.997	.700

The formula for computing $\underline{Z}$, the normal deviate (Wallis and Roberts, 1956), is:

$$Z = \frac{P_1 - P_2}{\sqrt{(PQ)(1/n_1 + 1/n_2)}}$$

where

P_1 = the proportion of one group represented in the category

P_2 = the proportion of other group represented in the category

n_1 = the number of respondents in the first group

n_2 = the number of respondents in the second group

$$P = \frac{n_1 P_1 + n_2 P_2}{n_1 + n_2}$$

$Q = 1 - P$

This formula takes the null hypothesis seriously, employing an estimate (P) of the common value of P_1 and P_2, the population proportions.

Since the possible values of $p_1 - p_2$ are not continuously distributed, Yates' correction for continuity is applied before the probability is computed, reducing by 0.5 the frequency corresponding to the larger proportion ($n_1 p_1$, the number of respondents from the first group who are represented in the category) and increasing by 0.5 the frequency corresponding to the smaller proportion ($n_2 p_2$). This correction causes some anomalous but trivial fluctuations in cells of the probability table that show probabilities of differences between small percentages of small samples.

Each value in the probability table is two tailed, including the probability of the difference $p_1 > p_2$ as well as the difference $p_2 > p_1$.

Additional information associated with the percentage table includes: (1) main title (for example, "East Los Angeles Skill Center, Group Comparisons, Good Things To Do"), (2) number of categories or rows, (3) number of groups or columns, (4) statement of how the data were input, that is, by rows or columns, (5) a one-line description of each group, and (6) the number of subjects (respondents) in each group.

Each column in the probability table compares two columns (two groups) in the percentage table. After selecting a suitable probability level (for example, 0.050, 0.010, 0.001), the user can circle the cells in the probability table that meet that criterion. The circled cells then constitute an index of significant differences in the percentage table.[*]

The data for program PERZPROB are the percentages printed in the second UNIKOUNT table, percentages of groups of respondents. Since a different UNIKOUNT table supplies the data for each group, and since the categories are unlikely to be listed in the same order in any two UNIKOUNT tables, a table of these percentages is made up, with the categories and groups assigned to table rows and columns as desired. The PERZPROB data cards are then punched from this table either by rows or by columns; in the usual case, punching by columns is more economical.

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[*]It has been stated that the group percentages are independent because the different groups do not contain the same respondents. This means that any entry in the probability table refers to a comparison of two independent percentages. A word of caution is necessary, however, when the user circles two or more entries in the same column of the probability table. The degree of dependence of entries in the same column is indeterminate but should not be assumed to be zero. Conditions tending to introduce dependence are: (1) each respondent may be represented in several cells of the column, (2) each respondent is allowed a limited number of responses, which may be distributed across a larger number of cells, and (3) the cells themselves may be assumed not to exist prior to, or independent of, classification of the responses into ECHO categories. Because of this intra-column dependence, the user should not assume a simple correspondence between the number of cells circled in a column in the probability table and the degree of dissimilarity between two groups of respondents.

TABLE 29

EXAMPLE OF ROCKEM OUTPUT

REFERENCE COLUMNS -- 20-21, COMPARISON COLUMNS -- 23-24

CATEGORY	FREQUENCY	RANK	CATEGORY TITLE
5	8	5.5	TO RESPECT OTHERS RIGHTS

CATEGORY	FREQUENCY	CATEGORY TITLE
19	2	TO HAVE PLEASANT RELATIONSHIPS WITH OTHERS
30	2	TO BE ON TIME
3	1	TO CONSIDER THE VALUES OF OTHERS
6	1	TO ASSIST OTHERS
13	1	TO BE HONEST
26	1	TO DO MORALLY GOOD THINGS

TABLE 30

EXAMPLE OF ROCKEM RESPONSE LIST

W 00804+	15 15	TO LISTEN TO THE RADIO
W 00806+	15 24	TO GO TO THE MOVIES
W 00807+	15 24	TO WATCH TV
W 01109+	15 09	TO MAKE A TRIP TO THE COUNTRY
W 01304+	15 15	TO LISTEN TO MUSIC WHILE STUDYING
W 01305+	15 09	TO GO WITH FATHER AND MOTHER TO THE SEAS
W 01409+	15 10	TO HAVE ENOUGH RELAXATION
W 01506+	15 10	TO HAVE FUN BY GOING OUT TO THE MOVIES
W 02001+	15 10	TO WATCH A SHOOTING MATCH OR TO SHOOT
W 02002+	15 09	TO MAKE A LONG TRIP TO SEVERAL PLACES
W 02003+	15 10	TO LIE DOWN WHEN ONE HAS NOTHING TO DO
W 02007+	15 24	TO GO TO A REALISTIC MOVIE
W 02010+	15 10	TO GO OUT FOR FUN WITH CLOSE FRIENDS
W 02106+	15 24	TO GO TO ALL KINDS OF MOVIES
W 02201+	15 24	TO WATCH TV
W 02204+	15 15	TO LISTEN TO MUSIC
W 02205+	15 16	TO READ FICTION
W 02206+	15 15	TO LISTEN TO NEWS ON THE RADIO
W 02208+	15 24	TO GO TO THE MOVIES
W 02403+	15 15	TO LISTEN TO MUSIC WHICH IS NOT TOO FAST
W 02404+	15 09	TO GO FOR A PICNIC OR TO TAKE A TRIP FOR
W 02501+	15 10	TO WATCH GAMES
W 02503+	15 09	TO MAKE A LONG TRIP
W 02507+	15 10	TO GO OUT FOR FUN WITH FRIENDS
W 02509+	15 24	TO GO TO THE MOVIES
W 02510+	15 15	TO LISTEN TO MUSIC
W 02703+	15 09	TO MAKE A TRIP FOR PLEASURE
W 02801+	15 10	TO RELAX
W 02804+	15 24	TO GO TO THE MOVIES
W 02903+	15 10	TO GO OUT FOR FUN
W 02905+	15 24	TO GO TO THE MOVIES
W 00802+	07 16	TO READ ALL KINDS OF BOOKS
W 00803+	07 16	TO WRITE A BOOK

D.   PROGRAM ROCKEM

Program ROCKEM compares two classifications of the same responses, such as a classification on Monday by three males and another classification on Wednesday by three females. The program can also list the data cards sorted by category number, category size, or both.

The program facilitates interpretation of any category from one classification (for instance, the Monday classification) through inspection of the distribution of the cards that made up that Monday category across one or more categories of the comparison classification (such as the Wednesday classification).

The user specifies two data fields in the same data cards, a "reference field" and a "comparison field." The program prints a small table for each category in the reference classification (Table 29), identified by category number and title, and showing how the same cards were distributed across the categories of the comparison classification, also identified by category number and title.

The user can also have all of the data cards listed in reference-field category-number order, or by decreasing frequency of category number (that is, largest category first). Table 30 shows 31 responses in category 15, titled "Relax and Go Places for Fun," followed by two responses from the next largest category, category 7.

E.   PROGRAM PRINDEK

Program PRINDEK prints cards for reclassification, one value-and-source response per card.

The purpose of having reclassification cards is to facilitate the classification of translated responses or the unbiased combination of disparate samples of responses (for example, where differences of vocabulary, handwriting, form of the ECHO question, or any other differences have been removed).

The main input for program PRINDEK is a display deck,[*] in which each response has been punched on one or more cards (leaders[*] and trailers[*]). The most important output of program PRINDEK consists of printed reclassification cards, one response per card. Two examples are shown in Figure 7. The top line of the first card shows a nine-character identification code, printed in two places. (The second character is a blank in this example but could be a group code.) The identification code of the second card indicates that it is the second response of the same respondent. The second and fourth lines on each card contain the ECHO questions. These questions are input to the program and can be varied by the user as need be.

F.   PROGRAM NUDEK

Program NUDEK merges ECHO reclassification codes with previous codes and punched responses. NUDEK can also rearrange the order in which information is punched into the data card columns.

The main use for program NUDEK is to update an ECHO display deck. Such a deck contains all identification, classification, and response information up to a given time. When a new classification of the same responses is performed, using either reclassification cards or the original response cards, the new classification codes are easily punched into the newly classified cards, but it is less convenient to punch them into the display deck. However, if the new information is to be fully used, it must be combined with the old. Program NUDEK takes the two decks, containing the old and new information respectively, and produces a new deck that contains all of the information. At the same time, if desired, the arrangement of the information in the data cards can be altered.

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[*] See Glossary for definitions of special ECHO terms.

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E 00601+F                                                          E 0061+F

Q - WHAT IS A GOOD THING TO DO

             ANSWER - TO HAVE A TRADE

Q - WHO WOULD APPROVE.

             ANSWER - I
```

```
E 00602+F                                                          E 00602+F

Q - WHAT IS A GOOD THING TO DO.

             ANSWER - TO EDUCATE MY CHILDREN

Q - WHO WOULD APPROVE.

             ANSWER - AUTHORITIES
```

Figure 7.   Examples of PRINDEK Output Cards

When the new display deck has been produced, the old display deck can usually be discarded. The reclassification cards or the original response cards would usually be retained for possible further use.

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13. ABSTRACT

The ECHO method is a way of observing, quantifying, and describing the patterns of value and influence that are felt, verbally expressed, and often acted on in human society. Understanding these patterns helps us to understand, communicate with, and act effectively in a particular group or culture. Such patterns can be derived by asking a few general ECHO questions to which respondents give multiple answers about what is good and bad to do, and who would approve or disapprove. The heterogeneous data that result are classified into empirically inherent, rather than into rationally predetermined, categories. The data are classified by members of the surveyed group as well as by the researchers, and the subsequent data analysis is mostly computerized. From the middle of 1966 to the beginning of 1969, Project ECHO achieved six main objectives: (1) the method was developed to a point where ECHO could give a detailed description of the value and influence pattern of a group, discriminating in detail and with confidence between different groups and subgroups in the same or different cultures; (2) The method's relevance to theory was shown; (3) ECHO method was found to be reliable and concurrently valid; (4) The method was applied successfully in areas of foreign language and culture, as well as in industrial and educational settings; (5) A detailed description of the method was prepared; (6) Special elements of the ECHO method were prepared for application in Thailand.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
ECHO multiresponse survey method Survey Value measurement Attitude measurement Cross-cultural Social psychology						